

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT



APPLICATION FOR PERMIT TO DRILL

2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>		1. WELL NAME and NUMBER GORDON CREEK FEE NW-31-14-8
4. TYPE OF WELL Gas Well Coalbed Methane Well: YES		3. FIELD OR WILDCAT UNDESIGNATED
6. NAME OF OPERATOR GORDON CREEK, LLC		5. UNIT or COMMUNITIZATION AGREEMENT NAME
8. ADDRESS OF OPERATOR 1179 E Main #345, Price, UT, 84501		7. OPERATOR PHONE 403 453-1608
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) FILLMORE FEE LEASE	11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>	9. OPERATOR E-MAIL rironside@thunderbirdenergy.com
13. NAME OF SURFACE OWNER (if box 12 = 'fee') MERRILL C. FILLMORE & FRED A. L. FILLMORE		12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input checked="" type="checkbox"/>
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee') PO BOX 14, Cleveland, UT 84518		14. SURFACE OWNER PHONE (if box 12 = 'fee') 435-653-2457
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')	18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>	16. SURFACE OWNER E-MAIL (if box 12 = 'fee')
19. SLANT VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>		

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	249 FNL 146 FWL	NWNW	31	14.0 S	8.0 E	S
Top of Uppermost Producing Zone	460 FNL 460 FWL	NWNW	31	14.0 S	8.0 E	S
At Total Depth	524 FNL 555 FWL	NWNW	31	14.0 S	8.0 E	S

21. COUNTY CARBON	22. DISTANCE TO NEAREST LEASE LINE (Feet) 146	23. NUMBER OF ACRES IN DRILLING UNIT 160
25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completion) 3500	26. PROPOSED DEPTH MD: 4491 TVD: 4435	
27. ELEVATION - GROUND LEVEL 7770	28. BOND NUMBER RLB0010790	29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 91-5205

Hole, Casing, and Cement Information										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
SURF	11	8.625	0 - 2063	24.0	J-55 ST&C	8.7	Class G	974	1.142	15.84
PROD	7.875	5.5	0 - 4491	17.0	N-80 LT&C	8.7	Class C	217	4.12	10.5
							Class C	109	2.39	11.5

ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES

<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input checked="" type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP

NAME Barry Brumwell	TITLE Vice President-Operations	PHONE 403 453-1608
SIGNATURE	DATE 12/20/2012	EMAIL bbrumwell@thunderbirdenergy.com
API NUMBER ASSIGNED 43007503590000		APPROVAL

Received: June 05, 2013

DRILLING PLAN and PROGRAM

Attached to UDOGM Form 3

GORDON CREEK, LLC.

GORDON CREEK FEE NW-31-14-8

SURFACE LOCATION: 249' FNL & 146' FWL

TOP OF FORMATION: 460' FNL & 460' FWL

BOTTOM HOLE LOCATION: 524' FNL & 555' FWL

NW/4 of NW/4 of Section 31-14S-8E

Carbon County, Utah

1. SURFACE GEOLOGIC FORMATION

Emery Sandstone Member of the Mancos Shale

2. ESTIMATED TOPS OF IMPORTANT GEOLOGIC MARKERS

	TVD	MD
Blue Gate Shale Member top:	2,061' KB	2,061.00' MD
Lower Blue Gate Bentonite Marker:	3,830' KB	3,816.13' MD
Ferron SS:	3,965' KB	4,007.05' MD
Tununk Shale:	4,377' KB	4,431.05' MD

3. PROJECTED GAS & H₂O ZONES

It is anticipated that groundwater *may* be encountered within the Emery Sandstone Member of the Mancos Shale. Any water encountered will be reported on a Form 7 "Report of Water Encountered During Drilling". All indications of usable water will be reported.

Casing & cementing will be done to protect potentially productive hydrocarbons, lost circulation zones, abnormal pressure zones and prospectively valuable mineral deposits.

Surface casing will be tested to 500 psi and the Production casing will be tested to 1,500 psi, with a minimum of 1 psi/ft of the last casing string setting depth.

4. DIRECTIONAL DRILLING PROGRAM

In order to encounter top of the Ferron Formation a minimum of 460' in from the section lines, and due to topographical constraints, this wellbore will need to be directionally drilled, as follows:

- Surface hole will be drilled vertically to 2,065' KB and surface casing set and cemented full length
- With directional drilling tools installed, the surface casing shoe will be drilled out and hole angle built to 13.66° under the casing shoe. Maximum dogleg severity planned is 2°/100'.
- Once hole angle reaches 13.66° inclination at 2747.86' MD, inclination will be held at 13.66° for the remainder of the drilled hole, to achieve the closure required to place the wellbore within the producible legal window of this ¼ section. Final Directional Azimuth = 123.90°

Received: December 20, 2012

5. PROPOSED CASING AND CEMENTING PROGRAMS

Refer to EXHIBIT "A" for casing design information

CASING PROGRAM

HOLE SIZE (in)	CASING SIZE (in)	WEIGHT (#/ft)	GRADE	JOINT	DEPTH SET (ft)
14 ³ / ₄	12 ³ / ₄	40.5	H-40	ST&C	0 – 40
11	8 ⁵ / ₈	24.00	J-55	ST&C	0 – 2,065
7 ⁷ / ₈	5 ¹ / ₂	17.00	N-80	LT&C	0 – 4,490.73' MD (4,435' TVD)

A. CEMENTING PROGRAM

The 8 ⁵/₈" surface casing will be set and cemented full length with approximately 974 sacks of 0-1-0 Class "G" cement + 2% CaCl₂ + 0.25 #/sk of cellophane flakes mixed at 15.84 ppg (yield = 1.142 ft³/sk); volume based on nominal hole size + 100% excess. The cement will be circulated back to surface. In the event that the cement is not circulated back to surface, a 1" top out job will be performed with 0-1-0 Class "G" cement + 2% CaCl₂ + 0.25 #/sk of cellophane flakes mixed at 15.84 ppg (yield = 1.142 ft³/sk).

The 5 ¹/₂" production casing will be set and cemented full length using a MINIMUM of 217 sx of LEAD CEMENT incorporating 2% Gypsum-60 + 0.25 #/sk of Superflake + 2% Super Sil SP mixed at 10.5 ppg (yield = 4.12 ft³/sk); cement volume based on nominal hole size + 100% excess, followed by a MINIMUM of 103 sx of HIGH EARLY COMPRESSIVE STRENGTH TAIL CEMENT incorporating 2% Gypsum-60 + 0.25 #/sk of Superflake + 2% Super Sil SP mixed at 11.5 ppg (yield = 2.39 ft³/sk); cement volume based on nominal hole size + 50% excess over the bottom 1000' of hole.

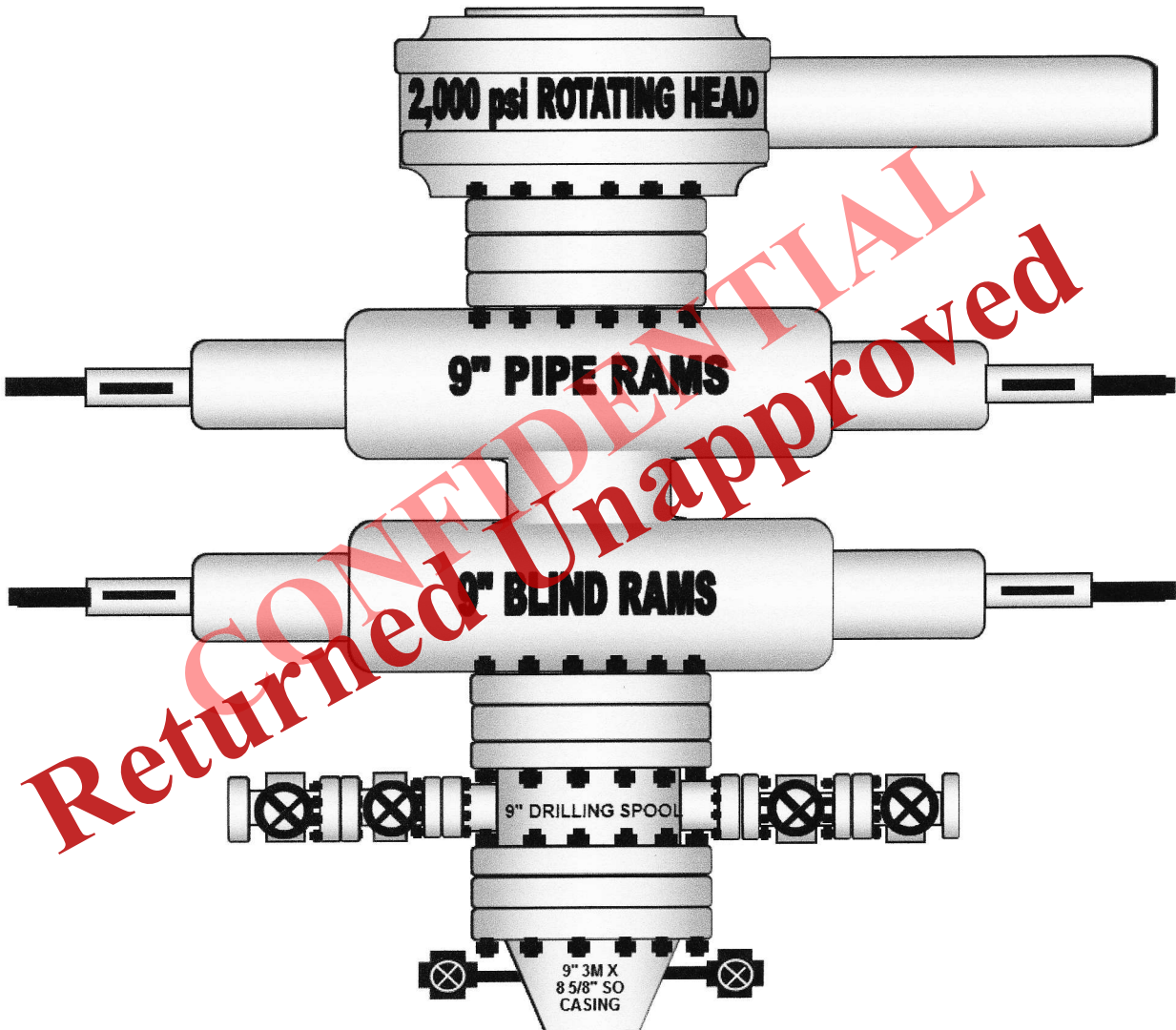
It is our intention for the cement mixture to be circulated back to surface, *IF POSSIBLE*.

THE FOLLOWING SHALL BE ENTERED INTO THE DRILLER'S LOG:

- I. Blowout preventer pressure tests, including test pressures and results;
- II. Blowout preventer tests for proper functioning;
- III. Blowout prevention drills conducted;
- IV. Well deviation information;
- V. Casing run, including size, grade, weight, and depth set;
- VI. How the pipe was cemented, including amount of cement, type, whether cement was circulated back to surface, location of the cementing tools, etc.;
- VII. Waiting on cement time for each casing string;
- VIII. Casing pressure tests after cementing, including test pressures and results.

6. THE OPERATOR'S MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL

Below is a schematic diagram of the blowout preventer equipment requirements for this drilling operation. A 9' X 3,000 psi double gate BOP will be used with a 2,000 psi Rotating Head utilized for air drilling operations. ALL BOPE will be pressure tested to the required operating pressures of each component. All tests will be recorded in the Driller's Report Book. The physical operation of each component of the BOP's will be checked on each trip.



THE TYPE AND CHARACTERISTICS OF THE PROPOSED CIRCULATING FLUIDS / MUDS

0' – 2,065'	11" Surface Hole	Drill with air, will mud-up if necessary.
2'065' – TMD	7 7/8" Main Hole	Drill with air, 500 psi @ 1500-2300 ft ³ /min

Will "mud up" at Total Depth to run logs and casing. Will mud up sooner if hole conditions dictate. It is anticipated that drilling fluid densities of 8.3 – 8.7 #/gal will be utilized when "mudded up".

7. THE TESTING, LOGGING AND CORING PROGRAMS

Open hole logs consisting of a CNL-LDT-GR-CAL will be run from above the Blue Gate Shale to TMD. A DIL-GR-SP log will be run from TMD to surface casing.

8. ANY ANTICIPATED ABNORMAL PRESSURES or TEMPERATURES

No abnormal pressures or temperatures have been noted or reported in wells drilled in the area nor at the depths anticipated in this well. Bottom hole pressure expected is approximately 900 psi maximum. No hydrogen sulfide or other hazardous gases or fluids have been found, reported or are known to exist at these depths in the area.

9. ANTICIPATED STARTING DATE AND DURATION OF THE OPERATIONS

The well will be drilled as soon as logistically possible after the APD Approval has been issued. Verbal and/or written notifications listed below shall be submitted in accordance with instructions from the Division of Oil, Gas & Mining:

- a) prior to beginning construction;
- b) prior to spudding;
- c) prior to running any casing or BOP tests;
- d) prior to plugging the well, for verbal plugging instructions.

Spills, blowouts, fires, leaks, accidents or other unusual occurrences shall IMMEDIATELY be reported to the Division of Oil, Gas & Mining.

EXHIBIT "A"

CASING DESIGN GORDON CREEK ST NW-31-14-8 PROJECTED TD: 4,435' KB, 4,490.73' MD

SURFACE CASING (0' – 2,065')

Diameter	8 ⁵ / ₈ "
Interval	2,065' to Surface
Weight	24 #/ft
Grade	J-55
Coupling	ST&C

Burst Design

The recommended practice is to base the burst rating of the casing string in psi to be at least numerically equal to 0.225 psi/ft times the setting depth in feet of the next casing string. The rating chosen was also intended to match the BOPE pressure rating and exceed the highest possible surface pressure of approximately 936 psig.

Burst required =	$0.225 \times 4,435' \text{ TVD}$	998 psig
Burst rating of casing string:	2,950 psi	
Safety factor =	$2,950 \text{ psi} / 998 \text{ psi} =$	2.96

Collapse Design

Collapse pressure is negligible on this surface string.

Tension Design

String weight in air = 24 #/ft X 2,065' =	49,560 #
Tensile strength of joint	244,000 lbf
Safety factor of joint	4.9

PRODUCTION CASING (0' – 4,491' TVD)

Diameter	5 ½"
Interval	4,491' to surface
Weight	17 #/ft
Grade	N-80
Coupling	LT&C

Burst Design

An internal pressure gradient of 0.4863 psi/ft has been used as a basis for these calculations. This gradient is equivalent to the force exerted by 10 ppg drilling fluid, which is a much higher density of fluid than we anticipate being required to drill this well.

Burst rating of casing string:	7,740 psi	
Burst rating required:	4,491' X 0.4863 =	2,184 psig
Safety factor =	7,740 psi / 2,184 psi =	<u>3.54</u>

Tension Design

1.6 Safety factor of top joint, neglecting buoyancy and without over pull

Tensile rating of casing joint:	348,000 lbf	
String Weight:	4,491' X 17 #/ft =	76,347 lbf
Safety factor =	348,000 lbf / 76,347 lbf =	<u>4.56</u>

Collapse Design

Maximum anticipated mud weight is 10.0 ppg based on a mud gradient of 0.53 psi/ft.

Collapse rating of csg string:	6,280 psi	
Collapse rating required:	4,491' X 0.53 psi/ft =	2,380 psi
Safety factor =	6,280 psi / 2,380 psi =	<u>2.64</u>

Production Casing Design

Interval (ft)	Weight (#/ft)	Grade	S.F. Burst	S.F. Collapse	S.F. Tension
4,491' – 0'	17	N-80	3.54	4.56	2.64

MULTI-POINT SURFACE USE PLAN

Attached to UDOGM Form 3

GORDON CREEK, LLC.

GORDON CREEK FEE NW-31-14-8

SURFACE LOCATION: 249' FNL & 146' FWL

TOP OF FORMATION: 460' FNL & 460' FWL

BOTTOM HOLE LOCATION: 524' FNL & 555' FWL

NW/4 of NW/4 of Section 31-14S-8E

Carbon County, Utah

1. EXISTING ROADS

- a. We do not plan to change, alter or improve upon ANY existing State or County roads.
- b. Existing roads will be maintained in the same or better condition.

2. PLANNED ACCESS

- a. Access will be off of Benches Road in Section 28-14S-8E and travel SW through Section 28 (SITLA SURFACE), Section 29 (DWR SURFACE), Section 32 (SITLA SURFACE) & Section 30 (PRIVATE SURFACE - BURNSIDE) on a newly constructed roadway. Surface Use Agreements in each Section as denoted above are in place and paid up for the planned roadway, except the DWR Agreement, which has been agreed to the Easement but the payment for the use of the Easement hasn't been paid yet, but will be prior to entering their lands. The roadway will follow existing 2-track trails wherever possible, and is planned with minimal impact to the terrain.
- b. If the well is productive, the road will be maintained as necessary to prevent soil erosion and maintain year-round traffic. However, we may allow the access road to be gated and closed off during winter production operations and access the site with a snowmobile or other winter ATV.
- c. Maximum Width: 20' travel surface with 27' base.
- d. Maximum grade: 25%
- e. Road culverts may be required. Surface water will be diverted around the well pad as necessary.
- f. Any power lines and / or pipelines to/from the well will follow the proposed access route.

3. LOCATION OF EXISTING WELLS

- a. As shown on the Civil Location Survey Plat for the well.

4. LOCATION OF EXISTING and/or PROPOSED FACILITIES

- a. If the well is a producer, installation of required production facilities will follow the drilling and completion phase of well operations. Buried flow lines, water lines and electrical cable will follow the proposed access road and other existing access ROWs to the intersection with Thunderbird's main 12' pipeline corridor.
- b. Rehabilitation of all pad areas not used for production facilities will be made in accordance with landowner stipulations.

Received: December 20, 2012

5. LOCATION AND TYPE OF WATER SUPPLY

- a. All water to be used for drilling operations will be obtained from area water wells drilled and owned by Gordon Creek, LLC.
- b. Water will be transported to location by truck over approved access roads.

6. SOURCE OF CONSTRUCTION MATERIALS

- a. Any necessary construction materials needed will be obtained locally from a private source and hauled to the location on existing roads.
- b. No construction or surfacing materials will be taken from Federal / Indian lands.

7. METHODS FOR HANDLING WASTE DISPOSAL

- a. As shown on the Survey Plat, a 100' X 60' X 8' deep "mud pit" with liner will be constructed on the well pad to hold the drilled solids and drilling fluids required during the drilling operations phase of the well. Three sides of the reserve pit will be fenced within 24 hours after completion of construction and the fourth side within 24 hours after drilling operations cease with four strands of barbed wire, or woven wire topped with barbed wire to a height of not less than four feet. The fence will be kept in good repair while the pit is drying.
- b. As the majority of this well is expected to be air drilled, a small reserve "blooie" pit that drains into the main mud pit will be constructed with a minimum of one-half the total depth below the original ground surface on the lowest point within the pit. The pit will not be lined unless conditions encountered during construction warrant it or if deemed necessary by the DOGM Representative during pre-site inspection. Three sides of the reserve pit will be fenced within 24 hours after completion of construction and the fourth side within 24 hours after drilling operations cease with four strands of barbed wire, or woven wire topped with barbed wire to a height of not less than four feet. The fence will be kept in good repair while the pit is drying.
- b. Following drilling, the liquid waste will be evaporated from any pit and the pit backfilled and returned to natural grade. No liquid hydrocarbons will be discharged to the reserve pit or onto or off of the well pad.
- c. In the event that wellbore fluids are produced, any oil will be retained in tanks until sold and any water produced will be retained in the mud pit until its quality can be determined. The quality and quantity of the water will determine the method of disposal.
- d. Trash will be contained in a portable metal container and will be hauled from location periodically and disposed of at an approved disposal site. Chemical toilets will be placed on location and sewage will be disposed of at an appropriate disposal site.

8. ANCILLARY FACILITIES

- a. We anticipate no need for ancillary facilities with the exception of a personnel accommodation trailers with closed loop septic systems to be located on the drill site.

9. WELLSITE LAYOUT

- a. Gordon Creek, LLC. has reduced to surface lease size (area stripped and levelled) for this location to the smallest lease size possible to accommodate the required drilling rig and support equipment.
- b. Any available topsoil will be removed from the location and stockpiled. The location of the rig, mud tanks, reserve and berm pits and all other drilling support equipment will be located as per common oilfield rig layouts.
- b. A blooie pit will be located 100' from the drill hole. A line will be placed on the surface from the center hole to the blooie pit. The blooie pit will not be lined, but will be fenced on four sides to protect livestock/wildlife.
- c. Access to the well pad will be as shown on the Civil Location Survey Plat for the well.
- d. Natural runoff will be diverted around the well pad.

10. PLANS FOR RESTORATION OF SURFACE

- a. All surface areas not required for producing operations will be graded to as near original condition as possible and contoured to minimize possible erosion.
- b. Available topsoil will be stockpiled and will be evenly distributed over the disturbed areas and the area will be reseeded as prescribed by the landowner.
- c. Pits and any other area that would present a hazard to wildlife or livestock will be fenced off when the rig is released and removed.
- d. Rehabilitation will commence following completion of the well. Rat and mouse holes will be filled in immediately upon release of the drilling rig from the location. If the well site is to be abandoned, all disturbed areas will be re-contoured to the natural terrain found prior to location construction.

11. SURFACE OWNERSHIP

- a. The access road and Wellsite in NW-31-14-8 is on and across lands owned by Merrill C. Fillmore and Freda L. Fillmore and covered by a private Fee Surface Use Agreement with the Fillmores. The operator shall contact the landowner and the Division of Oil, Gas and Mining 48 hours prior to beginning construction activities.

12. OTHER INFORMATION

- a. The primary surface use is wildlife habitat and/or cattle grazing. The nearest dwelling is approximately 19.8 miles east (Price, Utah).
- b. If there is snow on the ground when construction begins, it will be removed before the soil is disturbed and piled downhill from the topsoil stockpile location.
- c. The back-slope and fore-slope will be constructed no steeper than 4:1.
- d. All equipment and vehicles will be confined to the access road and well pad.
- e. A complete copy of the approved Application for Permit to Drill (APD,) including all conditions and stipulations shall be on the well-site during construction and drilling operations.

There will be no deviation from the proposed drilling and/or workover program without prior approval from the Division of Oil, Gas & Mining.

13. COMPANY REPRESENTATIVE

Barry Brumwell, C.E.T.
Vice President, Operations
Gordon Creek LLC., a wholly owned subsidiary of
Thunderbird Energy Corp.
#800, 555 – 4th Avenue S.W.
Calgary, Alberta, Canada T2P-3E7
(403) 453-1608 (office)
(403) 818-0696 (mobile)
bbrumwell@thunderbirdenergy.com

14. CERTIFICATION

I hereby certify that I, or persons under my direct supervision have inspected the proposed drill site and access route; that I am familiar with the conditions which presently exist; that the statements made in this plan are, to the best of my knowledge, true and correct, and that the work associated with the operations proposed herein will be performed by Gordon Creek, LLC. and its subcontractors in conformity with this plan and the terms and conditions under which it is approved.

3/18/2013

DATE



Barry Brumwell, C.E.T.

Vice President, Operations

Gordon Creek LLC. / Thunderbird Energy Inc.

T14S, R8E, S.L.B.&M.

THUNDERBIRD ENERGY

Well location, NW 31-14-8, located as shown in LOT 1 of Section 31, T14S, R8E, S.L.B.&M., Carbon County, Utah.

BASIS OF ELEVATION

SPOT ELEVATION LOCATED AT THE NORTHWEST CORNER OF SECTION 34, T13S, R8E, S.L.B.&M., TAKEN FROM THE JUMP CREEK, QUADRANGLE, UTAH, CARBON COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 7236 FEET.

BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.

LEGEND:

- = 90° SYMBOL
- = PROPOSED WELL HEAD.
- ▲ = SECTION CORNERS LOCATED.



SCALE

CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE REPRESENTS PREPARED BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR
STATE OF UTAH
EXPIRATION DATE 02/01/2012

REVISED: 12-03-12 C.C.

PREPARED: 11-30-12

UTAH ENGINEERING & LAND SURVEYING

200 SOUTH 200 EAST - VERNAL, UTAH 84078

(435) 789-1017

SCALE 1" = 1000'

DATE SURVEYED: 10-30-12

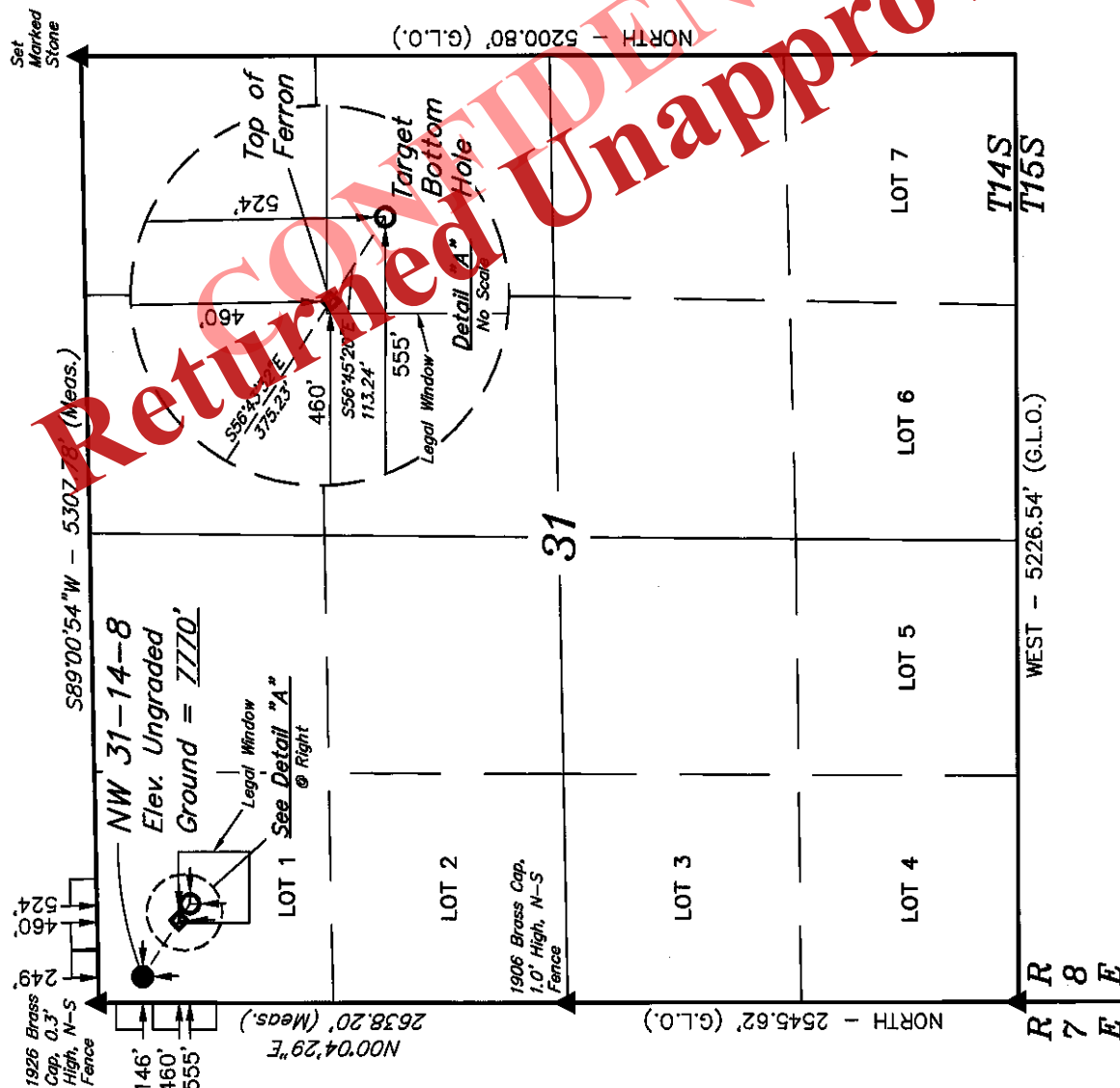
DATE DRAWN: 11-02-12

REFERENCES

G.L.O. PLAT

FILE

THUNDERBIRD ENERGY



NAD 83 (TARGET BOTTOM HOLE)	NAD 83 (TOP OF FERRON)	NAD 83 (SURFACE LOCATION)
LATITUDE = 39°34'11.02" (39.569728)	LATITUDE = 39°34'11.63" (39.569897)	LATITUDE = 39°34'13.66" (39.570461)
LONGITUDE = 111°04'40.64" (111.077956)	LONGITUDE = 111°04'41.85" (111.078292)	LONGITUDE = 111°04'45.86" (111.079406)
NAD 27 (TARGET BOTTOM HOLE)	NAD 27 (TOP OF FERRON)	NAD 27 (SURFACE LOCATION)
LATITUDE = 39°34'11.15" (39.569764)	LATITUDE = 39°34'11.76" (39.569933)	LATITUDE = 39°34'13.79" (39.570497)
LONGITUDE = 111°04'38.03" (111.077231)	LONGITUDE = 111°04'39.24" (111.077567)	LONGITUDE = 111°04'43.25" (111.078681)

Job Number: AFE No.: 11DRL027
Company: Gordon Creek, LLP
Lease/Well: Gordon Creek Fee NW 31-14-8
Location: 2-31-14S-8E SLM
Rig Name: TBA
RKB: 7779.8
G.L. or M.S.L.: 7767.8

State/Country: Utah / USA
Declination: □
Grid: True North
File name: C:\WINSERVE\MYT.SVY
Date/Time: 29-Nov-12 / 00:06
Curve Name: Thunderbird NW 31-14-8

WINSERVE PROPOSAL REPORT
 Minimum Curvature Method
 Vertical Section Plane 125.00
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Subsea TVD FT	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
Surface Tie-in										
.00	.00	.00	.00	7779.80	.00	.00	.00	.00	.00	.00
Blue Gate Shale Mbr**										
2061.00	.00	.00	2061.00	5718.80	.00	.00	.00	.00	.00	.00
Surface Shoe										
2065.00	.00	123.90	2065.00	5714.80	.00	.00	.00	.00	.00	.01
2075.00	.20	123.90	2075.00	5704.80	-.01	.01	.02	.02	123.85	2.00
2085.00	.40	123.90	2085.00	5694.80	-.04	.06	.07	.07	123.89	2.00
2095.00	.60	123.90	2095.00	5684.80	-.09	.13	.16	.16	123.90	2.00
2105.00	.80	123.90	2105.00	5674.80	-.16	.23	.28	.28	123.90	2.00
2115.00	1.00	123.90	2115.00	5664.80	-.24	.36	.44	.44	123.90	2.00
2125.00	1.20	123.90	2125.00	5654.80	-.35	.52	.63	.63	123.90	2.00
2135.00	1.40	123.90	2134.99	5644.81	-.48	.71	.86	.86	123.90	2.00
2145.00	1.60	123.90	2144.99	5634.81	-.62	.93	1.12	1.12	123.90	2.00
2155.00	1.80	123.90	2154.99	5624.81	-.79	1.17	1.41	1.41	123.90	2.00
2165.00	2.00	123.90	2164.98	5614.82	-.97	1.45	1.74	1.75	123.90	2.00
2175.00	2.20	123.90	2174.97	5604.83	-1.18	1.75	2.11	2.11	123.90	2.00
2185.00	2.40	123.90	2184.96	5594.83	-1.40	2.09	2.51	2.51	123.90	2.00
2195.00	2.60	123.90	2194.96	5584.84	-1.64	2.45	2.95	2.95	123.90	2.00
2205.00	2.80	123.90	2204.94	5574.86	-1.91	2.84	3.42	3.42	123.90	2.00
2215.00	3.00	123.90	2214.93	5564.87	-2.19	3.26	3.93	3.93	123.90	2.00
2225.00	3.20	123.90	2224.92	5554.88	-2.49	3.71	4.47	4.47	123.90	2.00
2235.00	3.40	123.90	2234.90	5544.90	-2.81	4.19	5.04	5.04	123.90	2.00
2245.00	3.60	123.90	2244.88	5534.92	-3.15	4.69	5.65	5.65	123.90	2.00
2255.00	3.80	123.90	2254.86	5524.94	-3.51	5.23	6.30	6.30	123.90	2.00

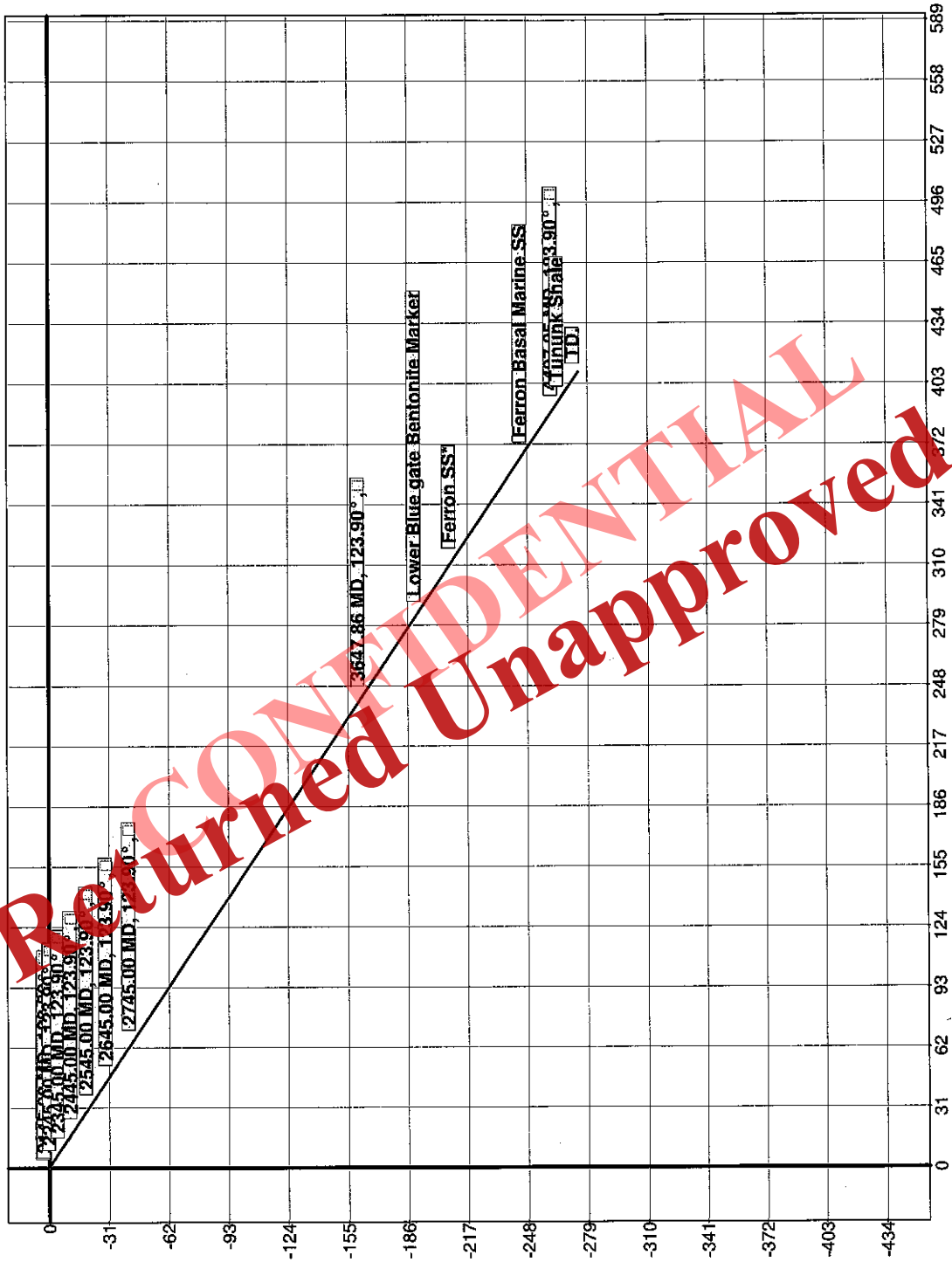
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Subsea TVD FT	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
2265.00	4.00	123.90	2264.84	5514.96	-3.89	5.79	6.98	6.98	123.90	2.00
2275.00	4.20	123.90	2274.81	5504.99	-4.29	6.39	7.69	7.69	123.90	2.00
2285.00	4.40	123.90	2284.78	5495.02	-4.71	7.01	8.44	8.44	123.90	2.00
2295.00	4.60	123.90	2294.75	5485.05	-5.15	7.66	9.23	9.23	123.90	2.00
2305.00	4.80	123.90	2304.72	5475.08	-5.60	8.34	10.05	10.05	123.90	2.00
2315.00	5.00	123.90	2314.68	5465.12	-6.08	9.05	10.90	10.90	123.90	2.00
2325.00	5.20	123.90	2324.64	5455.16	-6.58	9.79	11.79	11.79	123.90	2.00
2335.00	5.40	123.90	2334.60	5445.20	-7.09	10.55	12.71	12.71	123.90	2.00
2345.00	5.60	123.90	2344.55	5435.25	-7.63	11.35	13.67	13.67	123.90	2.00
2355.00	5.80	123.90	2354.50	5425.29	-8.18	12.17	14.66	14.67	123.90	2.00
2365.00	6.00	123.90	2364.45	5415.35	-8.75	13.03	15.69	15.69	123.90	2.00
2375.00	6.20	123.90	2374.40	5405.40	-9.35	13.91	16.75	16.76	123.90	2.00
2385.00	6.40	123.90	2384.33	5395.46	-9.96	14.82	17.85	17.85	123.90	2.00
2395.00	6.60	123.90	2394.27	5385.53	-10.59	15.76	18.98	18.99	123.90	2.00
2405.00	6.80	123.90	2404.20	5375.60	-11.24	16.73	20.15	20.15	123.90	2.00
2415.00	7.00	123.90	2414.13	5365.67	-11.91	17.72	21.35	21.35	123.90	2.00
2425.00	7.20	123.90	2424.05	5355.75	-12.60	18.75	22.59	22.59	123.90	2.00
2435.00	7.40	123.90	2433.97	5345.83	-13.31	19.80	23.86	23.86	123.90	2.00
2445.00	7.60	123.90	2443.89	5335.91	-14.04	20.89	25.16	25.17	123.90	2.00
2455.00	7.80	123.90	2453.80	5326.00	-14.78	22.00	26.50	26.51	123.90	2.00
2465.00	8.00	123.90	2463.70	5316.10	-15.55	23.14	27.87	27.88	123.90	2.00
2475.00	8.20	123.90	2473.60	5306.20	-16.34	24.31	29.28	29.29	123.90	2.00
2485.00	8.40	123.90	2483.50	5296.30	-17.14	25.51	30.73	30.73	123.90	2.00
2495.00	8.60	123.90	2493.39	5286.41	-17.97	26.74	32.20	32.21	123.90	2.00
2505.00	8.80	123.90	2503.27	5276.53	-18.81	27.99	33.72	33.72	123.90	2.00
2515.00	9.00	123.90	2513.15	5266.65	-19.67	29.27	35.26	35.27	123.90	2.00
2525.00	9.20	123.90	2523.03	5256.77	-20.55	30.59	36.85	36.85	123.90	2.00
2535.00	9.40	123.90	2532.89	5246.91	-21.46	31.93	38.46	38.47	123.90	2.00
2545.00	9.60	123.90	2542.76	5237.04	-22.38	33.30	40.11	40.12	123.90	2.00
2555.00	9.80	123.90	2552.61	5227.19	-23.32	34.70	41.80	41.80	123.90	2.00
2565.00	10.00	123.90	2562.47	5217.33	-24.27	36.12	43.51	43.52	123.90	2.00
2575.00	10.20	123.90	2572.31	5207.49	-25.25	37.58	45.27	45.28	123.90	2.00
2585.00	10.40	123.90	2582.15	5197.65	-26.25	39.06	47.06	47.06	123.90	2.00
2595.00	10.60	123.90	2591.98	5187.82	-27.27	40.58	48.88	48.89	123.90	2.00
2605.00	10.80	123.90	2601.81	5177.99	-28.30	42.12	50.73	50.74	123.90	2.00
2615.00	11.00	123.90	2611.63	5168.17	-29.36	43.69	52.62	52.63	123.90	2.00
2625.00	11.20	123.90	2621.44	5158.36	-30.43	45.29	54.55	54.56	123.90	2.00
2635.00	11.40	123.90	2631.25	5148.55	-31.52	46.91	56.51	56.52	123.90	2.00
2645.00	11.60	123.90	2641.05	5138.75	-32.64	48.57	58.50	58.51	123.90	2.00
2655.00	11.80	123.90	2650.84	5128.96	-33.77	50.25	60.53	60.54	123.90	2.00
2665.00	12.00	123.90	2660.62	5119.18	-34.92	51.96	62.59	62.60	123.90	2.00
2675.00	12.20	123.90	2670.40	5109.40	-36.09	53.70	64.69	64.70	123.90	2.00
2685.00	12.40	123.90	2680.17	5099.63	-37.27	55.47	66.82	66.83	123.90	2.00
2695.00	12.60	123.90	2689.93	5089.87	-38.48	57.27	68.98	68.99	123.90	2.00
2705.00	12.80	123.90	2699.69	5080.11	-39.71	59.09	71.18	71.19	123.90	2.00

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	Subsea TVD FT	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
2715.00	13.00	123.90	2709.44	5070.36	-40.95	60.94	73.41	73.42	123.90	2.00
2725.00	13.20	123.90	2719.18	5060.62	-42.22	62.82	75.68	75.69	123.90	2.00
2735.00	13.40	123.90	2728.91	5050.89	-43.50	64.73	77.98	77.99	123.90	2.00
2745.00	13.60	123.90	2738.63	5041.17	-44.80	66.67	80.31	80.33	123.90	2.00
2747.86	13.66	123.90	2741.41	5038.39	-45.18	67.23	80.98	81.00	123.90	2.00
2847.86	13.66	123.90	2838.58	4941.22	-58.35	86.83	104.59	104.61	123.90	.00
2947.86	13.66	123.90	2935.75	4844.05	-71.51	106.42	128.20	128.22	123.90	.00
3047.86	13.66	123.90	3032.93	4746.87	-84.68	126.02	151.80	151.83	123.90	.00
3147.86	13.66	123.90	3130.10	4649.70	-97.85	145.62	175.41	175.44	123.90	.00
3247.86	13.66	123.90	3227.27	4552.53	-111.02	165.22	199.02	199.05	123.90	.00
3347.86	13.66	123.90	3324.44	4455.36	-124.19	184.81	222.62	222.67	123.90	.00
3447.86	13.66	123.90	3421.62	4358.18	-137.36	204.41	246.23	246.28	123.90	.00
3547.86	13.66	123.90	3518.79	4261.01	-150.53	224.01	269.84	269.89	123.90	.00
3647.86	13.66	123.90	3615.96	4163.84	-163.70	243.61	293.44	293.50	123.90	.00
3747.86	13.66	123.90	3713.13	4066.67	-176.87	263.20	317.05	317.11	123.90	.00
3847.86	13.66	123.90	3810.31	3969.49	-190.04	282.80	340.66	340.72	123.90	.00
Lower Blue gate Bentonite Marker										
3868.13	13.66	123.90	3830.00	3949.80	-192.71	286.77	345.44	345.51	123.90	.00
3947.86	13.66	123.90	3907.48	3872.32	-203.20	302.00	364.26	364.33	123.90	.00
Ferron SS*										
4007.05	13.66	123.90	3965.00	3814.80	-211.00	314.00	378.24	378.31	123.90	.00
4107.05	13.66	123.90	4062.17	3711.63	-224.17	333.60	401.85	401.92	123.90	.00
4207.05	13.66	123.90	4159.35	3610.05	-237.34	353.19	425.45	425.53	123.90	.00
Ferron Basal Marine SS										
4284.91	13.66	123.90	4235.00	3544.80	-247.59	368.45	443.83	443.91	123.90	.00
4307.05	13.66	123.90	4256.52	3523.28	-250.51	372.79	449.06	449.14	123.90	.00
4407.05	13.66	123.90	4353.69	3426.11	-263.68	392.39	472.67	472.75	123.90	.00
Tununk Shale										
4431.04	13.66	123.90	4377.00	3402.80	-266.84	397.09	478.33	478.42	123.90	.00
TD.										
4490.73	13.66	123.90	4435.00	3344.80	-274.70	408.79	492.42	492.51	123.90	.00

Job Number: AFE No.: 11DRL027
Company: Gordon Creek, LLP
Lease/Well: Gordon Creek Fee NW 31-14-8
Location: 2-31-14S-8E SLM



Job Number: AFE No.: 11DRL027
 Company: Gordon Creek, LLP
 Lease/Well: Gordon Creek Fee NW 31-14-8
 Location: 2-31-14S-8E SLM





Gordon Creek, LLC.

December 20th, 2012

Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

To Whom It May Concern;

RE: DIRECTIONAL DRILLING NOTIFICATION – GORDON CREEK NW-31-14S-8E

SURFACE COORDINATES:	249' FNL	146' FWL
TOP OF PRODUCING ZONE COORDINATES:	460' FNL	460' FWL
BOTTOMHOLE COORDINATES:	524' FNL	555' FWL

Pursuant to the filing of an Application for Permit to Drill the above referenced well and in reference to the State of Utah Oil & Gas Conservation Rule # R649-3-11, we are hereby submitting this letter pertaining to the Exception to Location and Siting of Wells.

- The proposed well is situated on privately owned land in the Gordon Creek field on a 160 acre spacing unit.
- Gordon Creek, LLC. is permitting this well as a directional well in order to exploit the minerals in the 160 acre unit it is situated in, however surface topographical constraints have eliminated the ability to place this well at or near the center of the 160 acre spacing unit.
- In order to intersect the producing zone a minimum of 460' from the North and West Section boundaries, it is therefore necessary to directionally drill the wellbore.
- Furthermore, I, on behalf of Gordon Creek, LLC., hereby certify that we are the sole working interest owner within 460' of the wellbore at the top of the producing zone in the NW ¼ of the NW ¼ of Section 31-14S-8E which encompasses our paid up Oil & Gas Mineral lease (FEE - FILMORE).

Based on the above information, Gordon Creek, LLC. hereby requests the permit to be granted pursuant to DOP R649-3-11.

#550, 1010 – 1st Street S.W. Calgary, Alberta, Canada T3Z 1G7

Received: December 20, 2012

If you have any further questions regarding this matter, please don't hesitate to contact me by telephone at (403) 453-1608 or via email at bbrumwell@thunderbirdenergy.com.

Respectfully;

A handwritten signature in black ink, appearing to read 'B Brumwell', with a stylized, cursive script.

Barry Brumwell, C.E.T.

Vice President of Operations

Thunderbird Energy Inc. / Gordon Creek, LLC.

CONFIDENTIAL
Returned Unapproved

Received: December 20, 2012



GORDON CREEK, LLC.

December 20th, 2012

Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

To Whom It May Concern;

Re: LOCATION EXEMPTION LETTER - Gordon Creek NW-31-14S-8E

In reference to the State of Utah Oil & Gas Conservation Rule # R649-3-2, the proposed well GORDON CREEK NW-31-14S-8E is an exception to the rule due to the topography of the 160 acre Section that the well is located in.

Although this well's surface location is less than 460' from the Section 31 boundaries, we plan to intersect the top of the prospective producing zone (Ferron) in this well a minimum of 460' away from any section boundary.

If you have any further questions regarding this matter, please don't hesitate to contact me by telephone at (403) 453-1608 or via email at bbrumwell@thunderbirdenergy.com.

Respectfully;

Barry Brumwell, C.E.T.

Vice President of Operations

Thunderbird Energy / Gordon Creek, LLC.

PAID UP OIL AND GAS LEASE

THIS LEASE AGREEMENT is made as of the 27th day of January, 2012, between Merrill C. Fillmore and Freda L. Fillmore, husband and wife whose post office address is P.O.Box 14, Cleveland, UT 84518 as Lessor (whether one or more), and Thunderbird Energy, Inc., a Nevada Corporation, 533 Smith Street, Suite 401, Vancouver BC V6B6H1, as Lessee.

All printed portions of this lease were prepared by the party hereinabove named as Lessee, but all other provisions (including the completion of blank spaces) were prepared jointly by Lessor and Lessee.

1. **Grant of Leased Premises.** In consideration of a cash bonus in hand paid and the covenants herein contained, Lessor hereby grants, eases and lets exclusively to Lessee the following described land, hereinafter called **Leased Premises**, in the County of Carbon, State of Utah:

Township 14 South, Range 8 East, SLM

Section 31: Lot 1 (38.74), Lot 2 (38.64), E $\frac{1}{2}$ NW $\frac{1}{4}$, AKA (NW1/4)

containing 157.38 gross acres, more or less (including any interests therein which Lessor may hereafter acquire by reversion, prescription or otherwise), for the purpose of exploring for, developing, producing and marketing oil and gas, along with all hydrocarbon and nonhydrocarbon substances produced in association therewith ("**Oil and Gas Substances**"). The term "gas" as used herein includes helium, carbon dioxide, gaseous sulfur compounds, methane produced from coal formations and other commercial gases, as well as normal hydrocarbon gases. In addition to the above-described land, this lease and the term "Leased Premises" also cover accretions and any small strips or parcels of land now or hereafter owned by Lessor which are contiguous or adjacent to the above-described land, and in consideration of the aforementioned cash bonus, Lessor agrees to execute at Lessee's request any additional or supplemental instruments for a more complete or accurate description of the land so covered. For the purpose of determining the amount of any payments based on acreage hereunder, the number of gross acres above specified shall be deemed correct whether actually more or less.

2. **Ancillary Rights.** The rights granted to Lessee hereunder shall include the right of ingress and egress on the Leased Premises or lands pooled or utilized therewith as may be reasonably necessary to conduct operations for exploring, developing, producing and marketing Oil and Gas Substances, including but not limited to geophysical operations, the drilling of wells, and the construction and use of roads, canals, pipelines, tanks, water wells, disposal wells, injection wells, pits, electric and telephone lines, power stations, and other facilities deemed necessary by Lessee to explore, discover, produce, store, treat and/or transport Oil and Gas Substances and water produced from the Leased Premises or other lands that share central facilities and are jointly operated with the Leased Premises for gathering, treating, compression and water disposal. Lessee may use in such operations, free of cost, any oil, gas, water and/or other substances produced on the Leased Premises, except water from Lessor's wells or ponds. In exploring, developing, producing or marketing from the Leased Premises or lands pooled or unitized therewith, the ancillary rights granted herein shall apply (a) to the entire Leased Premises, notwithstanding any partial release or other partial termination of this lease; and (b) to any other lands in which Lessor now or hereafter has authority to grant such rights in the vicinity of the Leased Premises or lands pooled or utilized therewith. When requested by Lessor in writing, Lessee shall bury its pipelines below ordinary plow depth on cultivated lands. No well shall be located less than 200 feet from any house or barn now on the Leased Premises or other lands of Lessor used by Lessee hereunder. Without Lessor's consent, and Lessee shall pay for damage caused by its operations to buildings and other improvements now on the Leased Premises or such other lands, and to commercial timber and growing crops thereon. Lessee shall have the right at any time to remove its fixtures, equipment and materials, including well casing, from the Leased Premises or such other lands during the term of this lease or within a reasonable time thereafter.

3. **Term of Lease.** This lease shall be in force for a primary term of five (5) years from the date hereof, and for as long thereafter as oil or gas or other substances covered hereby are produced in paying quantities from the Leased Premises or from lands pooled or utilized therewith or this lease is otherwise maintained in effect pursuant to the provisions hereof. In the event production has not been achieved at the end of the Primary Term, Lessee shall have the option to extend the primary term by another five (5) years by tendering to the Lessor an amount equal to fifty dollars (\$50) per acre, such amount to be proportionately reduced in the event that the Lessor owns less than the full mineral estate. Lessee shall tender this payment and exercise this option at anytime within the final six months of the original primary term.

4. **Operations.** If Lessee drills a well which is incapable of producing in paying quantities (hereinafter called "**Dry Hole**") on the Leased Premises or lands pooled or utilized therewith, or if all production (whether or not in paying quantities) permanently ceases from any cause, including a revision of unit boundaries pursuant to the provisions of this lease or the action of any governmental authority, then in the event this lease is not otherwise being maintained in force, it shall nevertheless remain in force if Lessee commences further operations for reworking an existing well or for drilling an additional well or for otherwise obtaining or restoring production on the Leased Premises or lands pooled or utilized therewith within 90 days after completion of operations on such Dry Hole or within 90 days after such cessation of all production. If after the primary term this lease is not otherwise being maintained in force, but Lessee is then engaged in Operations, as defined below, this lease shall remain in force so long as any one or more of such Operations are prosecuted with no interruption of more than 90 consecutive days, and if any such Operations result in the production of Oil and Gas Substances, as long thereafter as there is production in paying quantities from the Leased Premises or lands pooled or unitized therewith. After completion of a well capable of producing in paying quantities, Lessee shall drill such additional wells on the Leased Premises or lands pooled or unitized therewith as a reasonably prudent operator would drill under the same or similar circumstances to protect the Leased Premises from uncompensated drainage by any well or wells located on other lands not pooled or unitized therewith. After completion of an initial well capable of producing in paying quantities, further development of the Leased Premises as to reservoirs then capable of producing in paying quantities shall be carried out by Lessee according to Lessee's good faith business judgment. There shall be no covenant to drill exploratory wells or any additional wells except as expressly provided herein. As used herein, the term Operations shall mean any activity conducted on or off the Leased Premises that is reasonably calculated to obtain or restore production, including without limitation, (i) drilling or any act preparatory to drilling (such as obtaining permits, surveying a drill site, staking a drill site, building roads, clearing a drill site, or hauling equipment or supplies); (ii) reworking, plugging back, deepening, treating, stimulating, refitting, installing any artificial lift or production-enhancement equipment or technique; (iii) constructing facilities related to the production, treatment, transportation and marketing of substances produced from the lease premises; (iv) contracting for marketing services and sale of Oil and Gas Substances; and (v) construction of water disposal facilities and the physical movement of water produced from the Leased Premises.

5. **Shut-in Royalty.** If after the primary term one or more wells on the Leased Premises or lands pooled or unitized therewith are capable of producing Oil and Gas Substances in paying quantities, but such well or wells are either shut in or production therefrom is not being sold by Lessee, such well or wells shall nevertheless be deemed to be producing in paying quantities for the purpose of maintaining this lease. If for a period of 90 consecutive days such well or wells are shut in or production therefrom is not sold by Lessee, then Lessee shall pay an aggregate shut-in royalty of one dollar per acre then covered by this lease. The payment shall be made to Lessor on or before the first anniversary date of the lease following the end of the 90-day period and thereafter on or before each anniversary while the well or wells are shut in or production therefrom is not being sold by Lessee; provided that if this lease is otherwise being maintained by operations under this lease, or if production is being sold by Lessee from another well or wells on the Leased Premises or lands pooled or unitized therewith, no shut-in royalty shall be due until the first anniversary date of the lease following the end of the 90-day period after the end of the period next following the cessation of such operations or production, as the case may be. Lessee's failure to properly pay shut-in royalty shall render Lessee liable for the amount due but shall not operate to terminate this lease.

6. **Royalty Payment.** For all Oil and Gas Substances that are physically produced from the Leased Premises, or lands pooled, unitized or communitized therewith, and sold, Lessor shall receive as its royalty 1/8th of the sales proceeds actually received by Lessee or, if applicable, its affiliate, as a result of the first sale of the affected production to an unaffiliated party, less this same percentage share of all Post Production Costs and this same percentage share of all production, severance and ad valorem taxes. As used in this provision, **Post Production Costs** shall mean all costs actually incurred by Lessee or its affiliate and all losses of produced volumes whether by use as fuel, line loss, flaring, venting or otherwise from and after the wellhead to the point of sale. These costs include, without limitation, all costs of gathering, marketing, compression, dehydration, transportation, removal of liquid or gaseous substances or impurities from the affected production, and any other treatment or processing required by the first unaffiliated party who purchases the affected production. For royalty calculation purposes, Lessee shall never be required to adjust the sales proceeds to account for the purchaser's costs or charges downstream of the point of sale.

Lessee or its affiliate shall have the right to construct, maintain and operate any facilities providing some or all of the services identified as Post Production Costs. If this occurs, the actual costs of such facilities shall be included in the Post Production costs as a per barrel or per mcf charge, as appropriate, calculated by spreading the construction, maintenance and operating costs for such facilities over the reasonably estimated total production volumes attributable to the well or wells using such facilities.

If Lessee uses the Oil and Gas Substances (other than as fuel in connection with the production and sale thereof) in lieu of receiving sale proceeds, the price to be used under this provision shall be based upon arm's-length sale(s) to unaffiliated parties for the applicable month that are obtainable, comparable in terms of quality and quantity, and in close proximity to the Leased Premises. Such comparable arm's-length sales price shall be less any Post Production Costs applicable to the specific arm's-length transaction that is utilized.

7. Pooling. Lessee shall have the right but not the obligation to pool all or any part of the Leased Premises or interest therein with any other lands or interests, as to any or all depths or zones, and as to any or all substances covered by this lease, either before or after the commencement of drilling or production, whenever Lessee deems it necessary or proper to do so in order to prudently develop or operate the Leased Premises, whether or not similar pooling authority exists with respect to such other lands or interests. The creation of a unit by such pooling shall be based on the following criteria (hereinafter called "pooling criteria"): A unit for an oil well (other than a horizontal completion) shall not exceed 40 acres plus a maximum acreage tolerance of 10%, and for a gas well or a horizontal completion shall not exceed 640 acres plus a maximum acreage tolerance of 10%; provided that a larger unit may be formed for an oil well or gas well or a horizontal completion to conform to any well spacing or density pattern that may be prescribed or permitted by any governmental authority having jurisdiction to do so. For the purpose of the foregoing, the terms "oil well" and "gas well" shall have the meanings prescribed by applicable law or the appropriate governmental authority, or, if no definition is so prescribed, "oil well" means a well with an initial gas-oil ratio of less than 100,000 cubic feet per barrel and "gas well" means a well with an initial gas-oil ratio of 100,000 cubic feet or more per barrel, based on a 24-hour production test conducted under normal producing conditions using standard lease separator facilities or equivalent testing equipment; and the term "horizontal completion" means a well in which the horizontal component of the completion interval in the reservoir exceeds the vertical component in such interval. In exercising its pooling rights hereunder, Lessee shall file of record a written declaration describing the unit and stating the effective date of pooling. Production, drilling or reworking operations anywhere on a unit which includes all or any part of the Leased Premises shall be treated as if it were production, drilling or reworking operations on the Leased Premises except that the production on which Lessor's royalty is calculated shall be that proportion of the total unit production which the net acreage covered by this lease and included in the unit bears to this total acreage in the unit, but only to the extent such proportion of unit production is sold by Lessee. In the event a unit is formed hereunder before the unit well is drilled and completed, so that the applicable pooling criteria are not yet known, the unit shall be based on the pooling criteria Lessee expects in good faith to apply upon completion of the well; provided that within a reasonable time after completion of the well, the unit shall be revised if necessary to conform to the pooling criteria that actually exist. Pooling in one or more instances shall not exhaust Lessee's pooling rights hereunder, and Lessee shall have the recurring right but not the obligation to revise any unit formed hereunder by expansion or contraction or both, either before or after commencement of production, in order to conform to the well spacing or density pattern prescribed or permitted by the governmental authority having jurisdiction, or to conform to any productive acreage determination made by such governmental authority. To revise a unit hereunder, Lessee shall file of record a written declaration describing the revised unit and stating the effective date of revision. To the extent any portion of the Leased Premises is included in or excluded from the unit by virtue of such revision, the proportion of unit production on which royalties are payable hereunder shall thereafter be adjusted accordingly.

8. Unitization. Lessee shall have the right but not the obligation to commit, at any time and from time to time, all or any part of the Leased Premises or interest therein to one or more unit plans or agreements for purpose of exploration, cooperative development, secondary or tertiary recovery, or operation of one or more oil and/or gas reservoirs, areas, or portions thereof, if in Lessee's judgment such plan or agreement will prevent waste and protect correlative rights, and if such plan or agreement is approved by the federal, state or local governmental authority having jurisdiction. When such a commitment is made, this lease shall be subject to the terms and conditions of the unit plan or agreement, including any formula prescribed therein for the allocation of production from a unit. Lessee shall have the recurring right but not the obligation to revise or consent to the revision any such unit plan or agreement. Upon permanent cessation of any such unit plan or agreement, Lessee may terminate the unit by filing of record a written declaration describing the unit and stating the date of termination. Pooling hereunder shall not constitute a cross-conveyance of interest.

9. Payment Reductions. If Lessor owns less than the full mineral estate in all or any part of the Leased Premises, payment of royalties and shut-in royalties hereunder shall be reduced as follows: royalties and shut-in royalties for any well on any part of the Leased Premises or lands pooled therewith shall be reduced to the proportion that Lessor's interest in such part of the leased premises bears to the full mineral estate in such part of the Leased Premises. To the extent any royalty or other payment attributable to the mineral estate covered by this lease is payable to someone other than Lessor, such royalty or other payment shall be deducted from the corresponding amount otherwise payable to Lessor hereunder.

10. Ownership Changes. The interest of either Lessor or Lessee hereunder may be assigned, devised or otherwise transferred in whole or in part, by area and/or by depth or zone, and the rights and obligations of the parties hereunder shall extend to their respective heirs, devisees, executors, administrators, successors and assigns. No change in Lessor ownership shall have the effect of reducing the rights or enlarging the obligations of Lessee hereunder, and no change in ownership shall be binding on Lessee until 60 days after Lessee has been furnished the original or duly authenticated copies of the documents establishing such change of ownership to the satisfaction of Lessee or until Lessor has satisfied the notification requirements contained in Lessee's usual form of division order. In the event of the death of any person entitled to shut-in royalties hereunder, Lessee may pay or tender such shut-in royalties to the credit of decedent or decedent's estate. If at any time two or more persons are entitled to shut-in royalties hereunder, Lessee may pay or tender such shut-in royalties to such persons either jointly or separately in proportion to the interest which each owns. If Lessee transfers its interest hereunder, in whole or in part, Lessee shall be relieved of all obligations thereafter arising with respect to the transferred interest, and failure of the transferee to satisfy such obligation with respect to the transferred interest shall not affect the rights of Lessee with respect to any interest not so transferred. If Lessee transfers a full or undivided interest in all or any portion of the area covered by this lease, the obligation to pay or tender shut-in royalties hereunder shall be divided between Lessee and the transferee in proportion to the net acreage interest in this lease then held by each.

11. Release of Lease. Lessee may, at any time and from time to time, deliver to Lessor or file of record a written release of this lease as to a full or undivided interest in all or any portion of the area covered by this lease or any depths or zones thereunder, and shall thereupon be relieved of all obligations thereafter arising with respect to the interest so released. If Lessee releases less than all of the interest or area covered hereby, Lessee's obligation to pay or tender shut-in royalties shall be proportionately reduced in accordance with the net acreage interest retained hereunder.

12. Regulation and Delay. Lessee's obligation under this lease, whether express or implied, shall be subject to all applicable laws, rules, regulations and orders of any governmental authority having jurisdiction, including restrictions on the drilling and production of wells, and regulation of the price or transportation of oil, gas or other substances covered hereby. When drilling, reworking, production or other operations are prevented or delayed by such laws, rules, regulations or orders, or by inability to obtain necessary permits, equipment, services, material, water, electricity, fuel, access or easements, or by fire, flood, adverse weather conditions, way, sabotage, rebellion, insurrection, riot, strike or labor disputes, or by inability to obtain a satisfactory market for production or failure of purchasers or carriers to take or transport such production, or by any other cause not reasonably within Lessee's control, this lease shall not terminate because of such prevention or delay, and, at Lessee's option, the period of such prevention or delay shall be added to the term hereof. Lessee shall not be liable for breach of any provisions or implied covenants of this lease when drilling, production or other operations are so prevented or delayed.

13. Breach or Default. No litigation shall be initiated by Lessor for damages, forfeiture or cancellation with respect to any breach or default by Lessee hereunder, for a period of at least 90 days after Lessor has given Lessee written notice fully describing the breach or default, and then only if Lessee fails to remedy the breach or default within such period. In the event the matter is litigated and there is a final judicial determination that a breach or default has occurred, this lease shall not be forfeited or cancelled in whole or in part unless Lessee is given a reasonable time after said judicial determination to remedy the breach or default and Lessee fails to do so.

14. Warranty of Title. Lessor hereby warrants and agrees to defend title conveyed to Lessee hereunder, and agrees that Lessee at Lessee's option may pay and discharge any taxes, mortgages or liens existing, levied or assessed on or against the Leased Premises. If Lessee exercises such option, Lessee shall be subrogated to the rights of the party to whom payment is made, and, in addition to its other rights, may reimburse itself out of any royalties or shut-in royalties otherwise payable to Lessor hereunder. In the event Lessee is made aware of any claim inconsistent with Lessor's title, Lessee may suspend the payment of royalties and shut-in royalties hereunder, without interest, until Lessee has been furnished satisfactory evidence that such claim has been resolved.

15. Indemnity. Lessee will indemnify and hold Lessor, its officers, directors, employees, agents, successors and assigns (hereafter collectively referred to as "Indemnified Parties") harmless from any and all claims, demands, suits, losses, damages, and costs (including, without limitation, any attorney fees) incurred by the Indemnified Parties which may be successfully asserted against the Indemnified Parties by reason of Lessee's activities on the Leased Premises (including, without limitation, any claims by any owners or lessees of minerals that Lessee's operations hereunder are either illegal, unauthorized, or constitute an improper interference with their rights).

IN WITNESS WHEREOF, this lease is executed to be effective as of the date first written above, but upon execution shall be binding on the signatory and the signatory's heirs, devisees, executors, administrators, successors and assigns, whether or not this lease has been executed by all parties hereinabove named as Lessor.

LESSOR

Merrill C. Fillmore
Merrill C. Fillmore, aka Merrill Fillmore

Freda L. Fillmore
Freda L. Fillmore

INDIVIDUAL

STATE OF ARIZONA)
COUNTY OF LaPaz) SS.

(For use in all states)

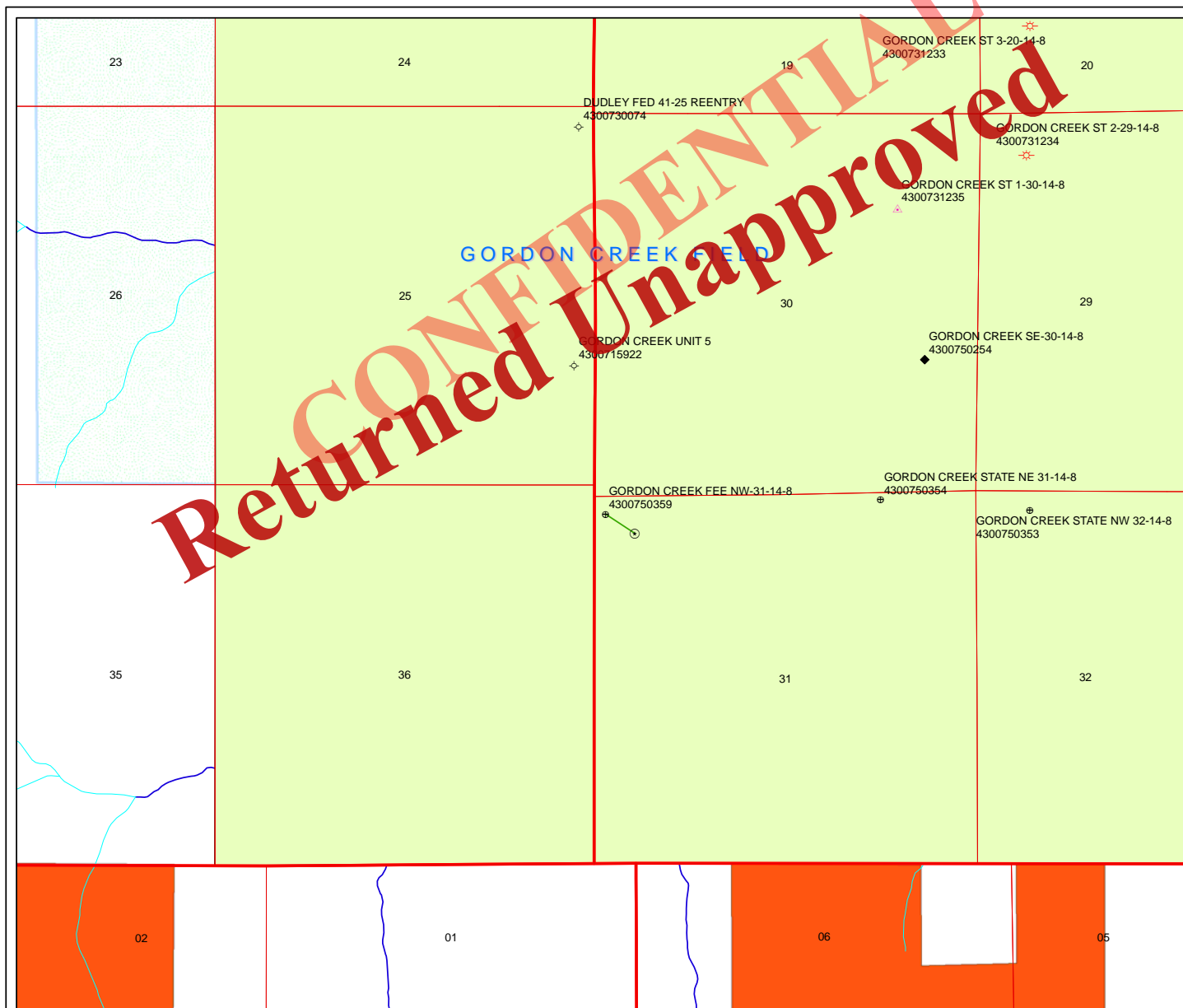
On this 31st day of January, 2012, before me, the undersigned Notary Public in and for said county and state, personally appeared Merrill known to me to be the person or persons whose name(s) are subscribed to the foregoing instrument, and acknowledged that the same was executed and delivered as his/her/their free and voluntary act for the purposes therein set forth. In witness whereof I hereunto set my hand and official Seal as of the date hereinabove stated.

My Commission Expires: April 14, 2014

Brittney Peters
NOTARY PUBLIC

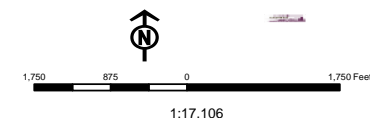
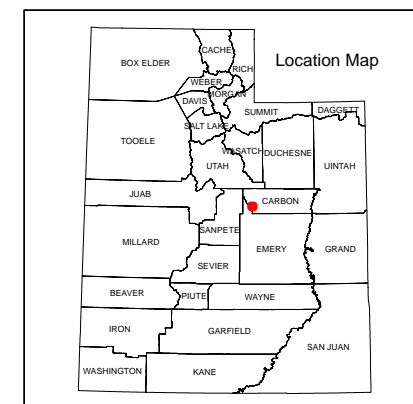


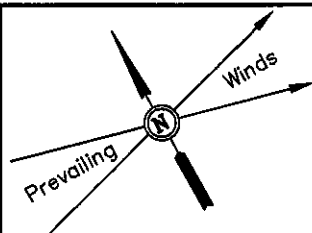
CONFIDENTIAL
Returned Unapproved



API Number: 4300750359
 Well Name: GORDON CREEK FEE NW-31-14-8
 Township T14.0S Range R08.0E Section 31
 Meridian: SLBM
 Operator: GORDON CREEK, LLC
 Map Prepared:
 Map Produced by Diana Mason

Units	Wells Query
STATUS	Status
ACTIVE	APD - Approved Permit
EXPLORATORY	DRL - Spudded (Drilling Commenced)
GAS STORAGE	GIW - Gas Injection
NF PP OIL	GS - Gas Storage
NF SECONDARY	LOC - New Location
PI OIL	OPS - Operation Suspended
PP GAS	PA - Plugged Abandoned
PP GEOTHERM	PGW - Producing Gas Well
PP OIL	POW - Producing Oil Well
SECONDARY	SGW - Shut-in Gas Well
TERMINATED	SOW - Shut-in Oil Well
Fields	TA - Temp. Abandoned
Unknown	TW - Test Well
ABANDONED	WDW - Water Disposal
ACTIVE	WW - Water Injection Well
COMBINED	WSW - Water Supply Well
INACTIVE	Bottom Hole Location - Oil/Gas/Dls
STORAGE	
TERMINATED	





THUNDERBIRD ENERGY

LOCATION LAYOUT FOR

NW 31-14-8

SECTION 31, T14S, R8E, S.L.B.&M.

249' FNL 146' FWL

FIGURE #1

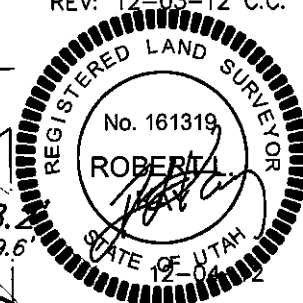
SCALE: 1" = 50'

DATE: 11-02-12

DRAWN BY: J.J.

REVISED: 11-30-12

REV: 12-03-12 C.C.



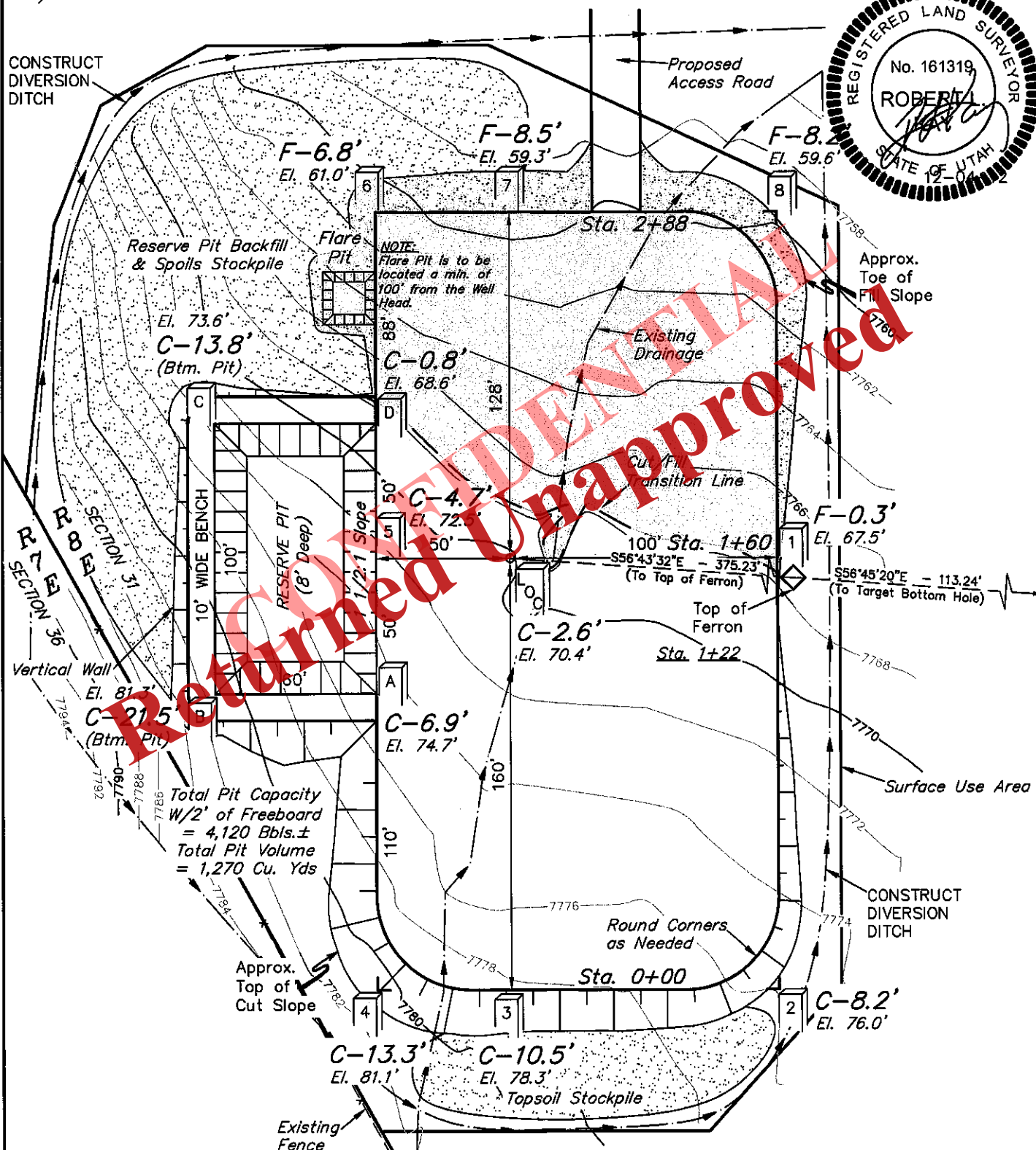
CONSTRUCT
DIVERSION
DITCH

Proposed
Access Road

Approx.
Toe of
Fill Slope

Surface Use Area

CONSTRUCT
DIVERSION
DITCH



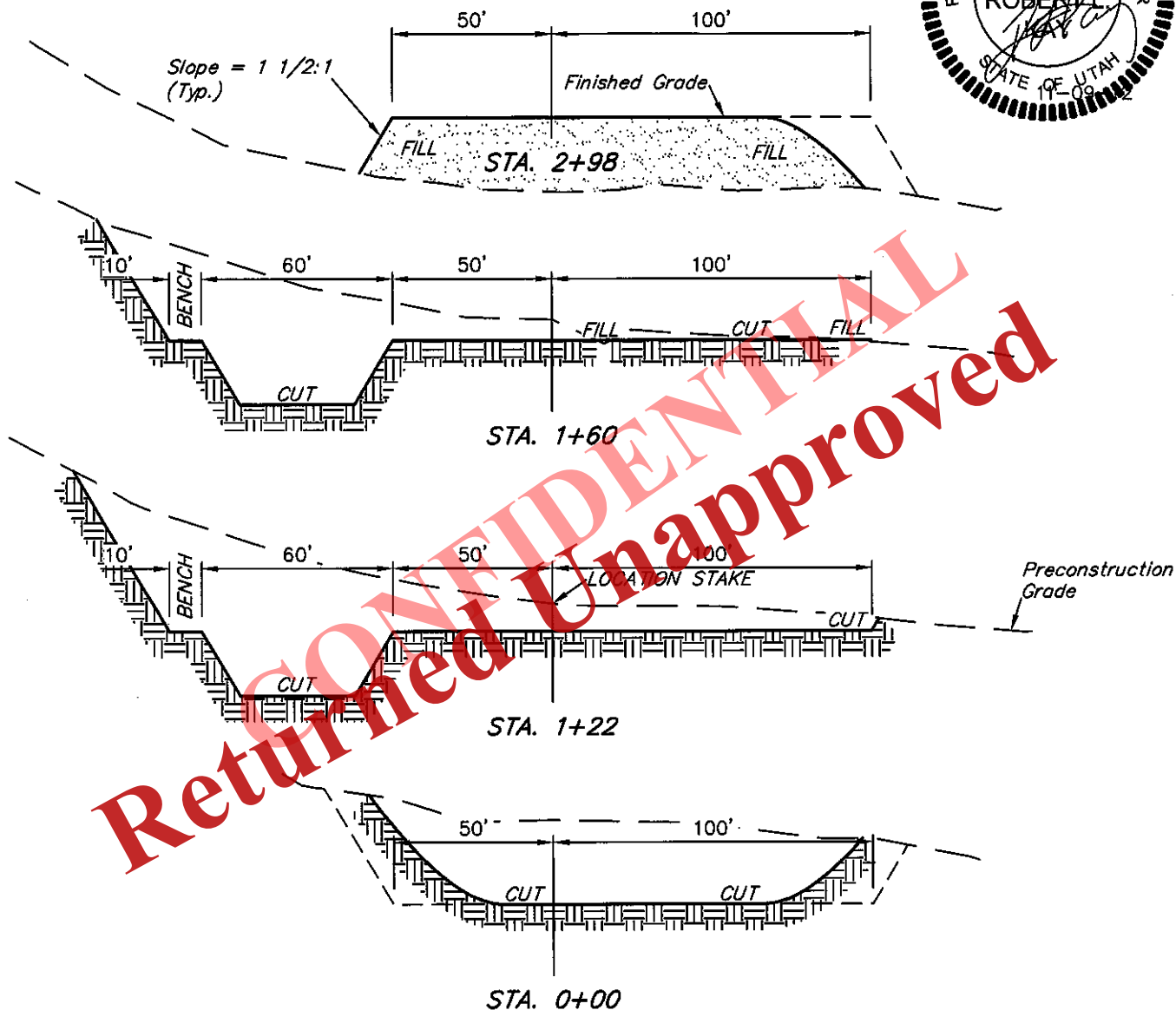
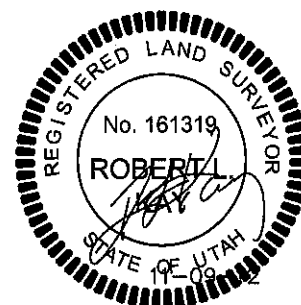
Elev. Ungraded Ground At Loc. Stake = 7770.4'
FINISHED GRADE ELEV. AT LOC. STAKE = 7767.8'

UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East * Vernal, Utah 84078 * (435) 789-1017

1" = 20'
X-Section
Scale
1" = 50'
DATE: 11-02-12
DRAWN BY: J.J.

THUNDERBIRD ENERGY
TYPICAL CROSS SECTIONS FOR
NW 31-14-8
SECTION 31, T14S, R8E, S.L.B.&M.
249' FNL 146' FWL

FIGURE #2



NOTE:

Topsoil should not be
Stripped Below Finished
Grade on Substructure Area.

APPROXIMATE ACREAGES

WELL SITE DISTURBANCE = ± 2.269 ACRES
ACCESS ROAD &
PIPELINE DISTURBANCE = ± 8.590 ACRES
TOTAL = ± 10.859 ACRES

*** NOTE:**
FILL QUANTITY INCLUDES
5% FOR COMPACTION

APPROXIMATE YARDAGES

(6") Topsoil Stripping = 1,200 Cu. Yds.
Remaining Location = 9,020 Cu. Yds.
TOTAL CUT = **10,220 CU. YDS.**
FILL = **3,400 CU. YDS.**

EXCESS MATERIAL = **6,820 Cu. Yds.**
Topsoil & Pit Backfill = **1,840 Cu. Yds.**
(1/2 Pit Vol.)
EXCESS UNBALANCE = **4,980 Cu. Yds.**
(After Interim Rehabilitation)

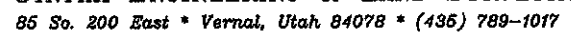
UINTAH ENGINEERING & LAND SURVEYING
85 So. 200 East * Vernal, Utah 84078 * (435) 789-1017

Received: January 03, 2013

TYPICAL RIG LAYOUT FOR

249' FNL 146' FWL

DRAWN BY: J.J.



Received: January 03, 2013

(435) 653-2232
↑

PAID UP OIL AND GAS LEASE

THIS LEASE AGREEMENT is made as of the 27th day of January, 2012, between Merrill C. Fillmore and Freda L. Fillmore, husband and wife whose post office address is P.O. Box 14, Cleveland, UT 84518 as Lessor (whether one or more), and Thunderbird Energy, Inc., a Nevada Corporation, 533 Smith Street, Suite 401, Vancouver BC V6B6H1, as Lessee.

All printed portions of this lease were prepared by the party hereinabove named as Lessee, but all other provisions (including the completion of blank spaces) were prepared jointly by Lessor and Lessee.

1. **Grant of Leased Premises.** In consideration of a cash bonus in hand paid and the covenants herein contained, Lessor hereby grants, leases and lets exclusively to Lessee the following described land, hereinafter called **Leased Premises**, in the County of Carbon, State of Utah:

Township 14 South, Range 8 East, SLM
Section 31: Lot 1 (38.74), Lot 2 (38.64), E $\frac{1}{2}$ NW $\frac{1}{4}$, AKA (NW $\frac{1}{4}$)

containing 157.38 gross acres, more or less (including any interests therein which Lessor may hereafter acquire by reversion, prescription or otherwise), for the purpose of exploring for, developing, producing and marketing oil and gas, along with all hydrocarbon and nonhydrocarbon substances produced in association therewith ("Oil and Gas Substances"). The term "gas" as used herein includes helium, carbon dioxide, gaseous sulfur compounds, methane produced from coal formations and other commercial gases, as well as normal hydrocarbon gases. In addition to the above-described land, this lease and the term "Leased Premises" also cover accretions and any small strips or parcels of land now or hereafter owned by Lessor which are contiguous or adjacent to the above-described land, and in consideration of the aforementioned cash bonus, Lessor agrees to execute at Lessee's request any additional or supplemental instruments for a more complete or accurate description of the land so covered. For the purpose of determining the amount of any payments based on acreage hereunder, the number of gross acres above specified shall be deemed correct whether actually more or less.

2. **Ancillary Rights.** The rights granted to Lessee hereunder shall include the right of ingress and egress on the Leased Premises or lands pooled or utilized therewith as may be reasonably necessary to conduct operations for exploring, developing, producing and marketing Oil and Gas Substances, including but not limited to geophysical operations, the drilling of wells, and the construction and use of roads, canals, pipelines, tanks, water wells, disposal wells, injection wells, pits, electric and telephone lines, power stations, and other facilities deemed necessary by Lessee to explore, discover, produce, store, treat and/or transport Oil and Gas Substances and water produced from the Leased Premises or other lands that share central facilities and are jointly operated with the Leased Premises for gathering, treating, compression and water disposal. Lessee may use in such operations, free of cost, any oil, gas, water and/or other substances produced on the Leased Premises, except water from Lessor's wells or ponds. In exploring, developing, producing or marketing from the Leased Premises or lands pooled or utilized therewith, the ancillary rights granted herein shall apply (a) to the entire Leased Premises, notwithstanding any partial release or other partial termination of this lease; and (b) to any other lands in which Lessor now or hereafter has authority to grant such rights in the vicinity of the Leased Premises or lands pooled or utilized therewith. When requested by Lessor in writing, Lessee shall bury its pipelines below ordinary plow depth on cultivated lands. No well shall be located less than 200 feet from any house or barn now on the Leased Premises or other lands of Lessor used by Lessee hereunder, without Lessor's consent, and Lessee shall pay for damage caused by its operations to buildings and other improvements now on the Leased Premises or such other lands, and to commercial timber and growing crops thereon. Lessee shall have the right at any time to remove its fixtures, equipment and materials, including well casing, from the Leased Premises or such other lands during the term of this lease or within a reasonable time thereafter.

3. **Term of Lease.** This lease shall be in force for a primary term of five (5) years from the date hereof, and for as long thereafter as oil or gas or other substances covered hereby are produced in paying quantities from the Leased Premises or from lands pooled or utilized therewith or this lease is otherwise maintained in effect pursuant to the provisions hereof. In the event production has not been achieved at the end of the Primary Term, Lessee shall have the option to extend the primary term by another five (5) years by tendering to the Lessor an amount equal to fifty dollars (\$50) per acre, such amount to be proportionately reduced in the event that the Lessor owns less than the full mineral estate. Lessee shall tender this payment and exercise this option at anytime within the final six months of the original primary term.

4. **Operations.** If Lessee drills a well which is incapable of producing in paying quantities (hereinafter called "Dry Hole") on the Leased Premises or lands pooled or utilized therewith, or if all production (whether or not in paying quantities) permanently ceases from any cause, including a revision of unit boundaries pursuant to the provisions of this lease or the action of any governmental authority, then in the event this lease is not otherwise being maintained in force, it shall nevertheless remain in force if Lessee commences further operations for reworking an existing well or for drilling an additional well or for otherwise obtaining or restoring production on the Leased Premises or lands pooled or utilized therewith within 90 days after completion of operations on such Dry Hole or within 90 days after such cessation of all production. If after the primary term this lease is not otherwise being maintained in force, but Lessee is then engaged in Operations, as defined below, this lease shall remain in force so long as any one or more of such Operations are prosecuted with no interruption of more than 90 consecutive days, and if any such Operations result in the production of Oil and Gas Substances, as long thereafter as there is production in paying quantities from the Leased Premises or lands pooled or utilized therewith. After completion of a well capable of producing in paying quantities, Lessee shall drill such additional wells on the Leased Premises or lands pooled or utilized therewith as a reasonably prudent operator would drill under the same or similar circumstances to protect the Leased Premises from uncompensated drainage by any well or wells located on other lands not pooled or unitized therewith. After completion of an initial well capable of producing in paying quantities, further development of the Leased Premises as to reservoirs then capable of producing in paying quantities shall be carried out by Lessee according to Lessee's good faith business judgment. There shall be no covenant to drill exploratory wells or any additional wells except as expressly provided herein. As used herein, the term Operations shall mean any activity conducted on or off the Leased Premises that is reasonably calculated to obtain or restore production, including without limitation, (i) drilling or any act preparatory to drilling (such as obtaining permits, surveying a drill site, staking a drill site, building roads, clearing a drill site, or hauling equipment or supplies); (ii) reworking, plugging back, deepening, treating, stimulating, refitting, installing any artificial lift or production-enhancement equipment or technique; (iii) constructing facilities related to the production, treatment, transportation and marketing of substances produced from the lease premises; (iv) contracting for marketing services and sale of Oil and Gas Substances; and (v) construction of water disposal facilities and the physical movement of water produced from the Leased Premises.

5. **Shut-in Royalty.** If after the primary term one or more wells on the Leased Premises or lands pooled or unitized therewith are capable of producing Oil and Gas Substances in paying quantities, but such well or wells are either shut in or production therefrom is not being sold by Lessee, such well or wells shall nevertheless be deemed to be producing in paying quantities for the purpose of maintaining this lease. If for a period of 90 consecutive days such well or wells are shut in or production therefrom is not sold by Lessee, then Lessee shall pay an aggregate shut-in royalty of one dollar per acre then covered by this lease. The payment shall be made to Lessor on or before the first anniversary date of the lease following the end of the 90-day period and thereafter on or before each anniversary while the well or wells are shut in or production therefrom is not being sold by Lessee; provided that if this lease is otherwise being maintained by operations under this lease, or if production is being sold by Lessee from another well or wells on the Leased Premises or lands pooled or unitized therewith, no shut-in royalty shall be due until the first anniversary date of the lease following the end of the 90-day period after the end of the period next following the cessation of such operations or production, as the case may be. Lessee's failure to properly pay shut-in royalty shall render Lessee liable for the amount due but shall not operate to terminate this lease.

6. **Royalty Payment.** For all Oil and Gas Substances that are physically produced from the Leased Premises, or lands pooled, unitized or communitized therewith, and sold, Lessor shall receive as its royalty $\frac{1}{8}$ th of the sales proceeds actually received by Lessee or, if applicable, its affiliate, as a result of the first sale of the affected production to an unaffiliated party, less this same percentage share of all Post Production Costs and this same percentage share of all production, severance and ad valorem taxes. As used in this provision, **Post Production Costs** shall mean all costs actually incurred by Lessee or its affiliate and all losses of produced volumes whether by use as fuel, line loss, flaring, venting or otherwise from and after the wellhead to the point of sale. These costs include, without limitation, all costs of gathering, marketing, compression, dehydration, transportation, removal of liquid or gaseous substances or impurities from the affected production, and any other treatment or processing required by the first unaffiliated party who purchases the affected production. For royalty calculation purposes, Lessee shall never be required to adjust the sales proceeds to account for the purchaser's costs or charges downstream of the point of sale.

Lessee or its affiliate shall have the right to construct, maintain and operate any facilities providing some or all of the services identified as Post Production Costs. If this occurs, the actual costs of such facilities shall be included in the Post Production costs as a per barrel or per mcf charge, as appropriate, calculated by spreading the construction, maintenance and operating costs for such facilities over the reasonably estimated total production volumes attributable to the well or wells using such facilities.

If Lessee uses the Oil and Gas Substances (other than as fuel in connection with the production and sale thereof) in lieu of receiving sale proceeds, the price to be used under this provision shall be based upon arm's-length sale(s) to unaffiliated parties for the applicable month that are obtainable, comparable in terms of quality and quantity, and in close proximity to the Leased Premises. Such comparable arm's-length sales price shall be less any Post Production Costs applicable to the specific arm's-length transaction that is utilized.

7. **Pooling.** Lessee shall have the right but not the obligation to pool all or any part of the Leased Premises or interest therein with any other lands or interests, as to any or all depths or zones, and as to any or all substances covered by this lease, either before or after the commencement of drilling or production, whenever Lessee deems it necessary or proper to do so in order to prudently develop or operate the Leased Premises, whether or not similar pooling authority exists with respect to such other lands or interests. The creation of a unit by such pooling shall be based on the following criteria (hereinafter called "pooling criteria"): A unit for an oil well (other than a horizontal completion) shall not exceed 40 acres plus a maximum acreage tolerance of 10%, and for a gas well or a horizontal completion shall not exceed 640 acres plus a maximum acreage tolerance of 10%; provided that a larger unit may be formed for an oil well or gas well or a horizontal completion to conform to any well spacing or density pattern that may be prescribed or permitted by any governmental authority having jurisdiction to do so. For the purpose of the foregoing, the terms "oil well" and "gas well" shall have the meanings prescribed by applicable law or the appropriate governmental authority, or, if no definition is so prescribed, "oil well" means a well with an initial gas-oil ratio of less than 100,000 cubic feet per barrel, based on a 24-hour production test conducted under normal producing conditions using gas-oil ratio of 100,000 cubic feet or more per barrel, and the term "horizontal completion" means a well in which the horizontal component of the completion interval in the reservoir exceeds the vertical component in such interval. In exercising its pooling rights hereunder, Lessee shall file of record a written declaration describing the unit and stating the effective date of pooling. Production, drilling or reworking operations anywhere on a unit which includes all or any part of the Leased Premises shall be treated as if it were production, drilling or reworking operations on the Leased Premises except that the production on which Lessor's royalty is calculated shall be that proportion of the total unit production which the net acreage covered by this lease and included in the unit bears to this total acreage in the unit, but only to the extent such proportion of unit production is sold by Lessee. In the event a unit is formed hereunder before the unit well is drilled and completed, so that the applicable pooling criteria are not yet known, the unit shall be based on the pooling criteria Lessee expects in good faith to apply upon completion of the well; provided that within a reasonable time after completion of the well, the unit shall be revised if necessary to conform to the pooling criteria that actually exist. Pooling in one or more instances shall not exhaust Lessee's pooling rights hereunder, and Lessee shall have the recurring right but not the obligation to revise any unit formed hereunder by expansion or contraction or both, either before or after commencement of production, in order to conform to the well spacing or density pattern prescribed or permitted by the governmental authority having jurisdiction, or to conform to any productive acreage determination made by such governmental authority. To revise a unit hereunder, Lessee shall file of record a written declaration describing the revised unit and stating the effective date of revision. To the extent any portion of the Leased Premises is included in or excluded from the unit by virtue of such revision, the proportion of unit production on which royalties are payable hereunder shall thereafter be adjusted accordingly.

8. **Unitization.** Lessee shall have the right but not the obligation to commit, at any time and from time to time, all or any part of the Leased Premises or interest therein to one or more unit plans or agreements for purpose of exploration, cooperative development, secondary or tertiary recovery, or operation of one or more oil and/or gas reservoirs, areas, or portions thereof, if in Lessee's judgment such plan or agreement will prevent waste and protect correlative rights, and if such plan or agreement is approved by the federal, state or local governmental authority having jurisdiction. When such a commitment is made, this lease shall be subject to the terms and conditions of the unit plan or agreement, including any formula prescribed therein for the allocation of production from a unit. Lessee shall have the recurring right but not the obligation to revise or consent to the revision any such unit plan or agreement. Upon permanent cessation of any such unit plan or agreement, Lessee may terminate the unit by filing of record a written declaration describing the unit and stating the date of termination. Pooling hereunder shall not constitute a cross-conveyance of interest.

9. **Payment Reductions.** If Lessor owns less than the full mineral estate in all or any part of the Leased Premises, payment of royalties and shut-in royalties hereunder shall be reduced as follows: royalties and shut-in royalties for any well on any part of the Leased Premises or lands pooled therewith shall be reduced to the proportion that Lessor's interest in such part of the Leased Premises bears to the full mineral estate in such part of the Leased Premises. To the extent any royalty or other payment attributable to the full mineral estate covered by this lease is payable to someone other than Lessor, such royalty or other payment shall be deducted from the corresponding amount otherwise payable to Lessor hereunder.

10. **Ownership Changes.** The interest of either Lessor or Lessee hereunder may be assigned, devised or otherwise transferred in whole or in part, by area and/or by depth or zone, and the rights and obligations of the parties hereunder shall extend to their respective heirs, devisees, executors, administrators, successors and assigns. No change in Lessor's ownership shall have the effect of reducing the rights or enlarging the obligations of Lessee hereunder, and no change in ownership shall be binding on Lessee until 60 days after Lessee has been furnished the original or duly authenticated copies of the documents establishing such change of ownership to the satisfaction of Lessee or until Lessor has satisfied the notification requirements contained in Lessee's usual form of division order. In the event of the death of any person entitled to shut-in royalties hereunder, Lessee may pay or tender such shut-in royalties to the credit of decedent or decedent's estate. If at any time two or more persons are entitled to shut-in royalties hereunder, Lessee may pay or tender such shut-in royalties to such persons either jointly or separately in proportion to the interest which each owns. If Lessee transfers its interest hereunder, in whole or in part, Lessee shall be relieved of all obligations thereafter arising with respect to the transferred interest, and failure of the transferee to satisfy such obligation with respect to the transferred interest shall not affect the rights of Lessee with respect to any interest not so transferred. If Lessee transfers a full or undivided interest in all or any portion of the area covered by this lease, the obligation to pay or tender shut-in royalties hereunder shall be divided between Lessee and the transferee in proportion to the net acreage interest in this lease then held by each.

11. **Release of Lease.** Lessee may, at any time and from time to time, deliver to Lessor or file of record a written release of this lease as to a full or undivided interest in all or any portion of the area covered by this lease or any depths or zones thereunder, and shall thereupon be relieved of all obligations thereafter arising with respect to the interest so released. If Lessee releases less than all of the interest or area covered hereby, Lessee's obligation to pay or tender shut-in royalties shall be proportionately reduced in accordance with the net acreage interest retained hereunder.

12. **Regulation and Delay.** Lessee's obligation under this lease, whether express or implied, shall be subject to all applicable laws, rules, regulations and orders of any governmental authority having jurisdiction, including restrictions on the drilling and production of wells, and regulation of the price or transportation of oil, gas or other substances covered hereby. When drilling, reworking, production or other operations are prevented or delayed by such laws, rules, regulations or orders, or by inability to obtain necessary permits, equipment, services, material, water, electricity, fuel, access or easements, or by fire, flood, adverse weather conditions, war, sabotage, rebellion, insurrection, riot, strike or labor disputes, or by inability to obtain a satisfactory market for production or failure of purchasers or carriers to take or transport such production, or by any other cause not reasonably within Lessee's control, this lease shall not terminate because of such prevention or delay, and, at Lessee's option, the period of such prevention or delay shall be added to the term hereof. Lessee shall not be liable for breach of any provisions or implied covenants of this lease when drilling, production or other operations are so prevented or delayed.

13. **Breach or Default.** No litigation shall be initiated by Lessor for damages, forfeiture or cancellation with respect to any breach or default by Lessee hereunder, for a period of at least 90 days after Lessor has given Lessee written notice fully describing the breach or default, and then only if Lessee fails to remedy the breach or default within such period. In the event the matter is litigated and there is a final judicial determination that a breach or default has occurred, this lease shall not be forfeited or cancelled in whole or in part unless Lessee is given a reasonable time after said judicial determination to remedy the breach or default and Lessee fails to do so.

14. **Warranty of Title.** Lessor hereby warrants and agrees to defend title conveyed to Lessee hereunder, and agrees that Lessee at Lessee's option may pay and discharge any taxes, mortgages or liens existing, levied or assessed on or against the Leased Premises. If Lessee exercises such option, Lessee shall be subrogated to the rights of the party to whom payment is made, and, in addition to its other rights, may reimburse itself out of any royalties or shut-in royalties otherwise payable to Lessor hereunder. In the event Lessee is made aware of any claim inconsistent with Lessor's title, Lessee may suspend the payment of royalties and shut-in royalties hereunder, without interest, until Lessee has been furnished satisfactory evidence that such claim has been resolved.

15. **Indemnity.** Lessee will indemnify and hold Lessor, its officers, directors, employees, agents, successors and assigns (hereafter collectively referred to as "Indemnified Parties") harmless from any and all claims, demands, suits, losses, damages, and costs (including, without limitation, any attorney fees) incurred by the Indemnified Parties which may be successfully asserted against the Indemnified Parties by reason of Lessee's activities on the Leased Premises (including, without limitation, any claims by any owners or lessees of minerals that Lessee's operations hereunder are either illegal, unauthorized, or constitute an improper interference with their rights).

IN WITNESS WHEREOF, this lease is executed to be effective as of the date first written above, but upon execution shall be binding on the signatory and the signatory's heirs, devisees, executors, administrators, successors and assigns, whether or not this lease has been executed by all parties hereinabove named as Lessor.

LESSOR

Merrill C. Fillmore
Merrill C. Fillmore, aka Merrill Fillmore

Freda L. Fillmore
Freda L. Fillmore

INDIVIDUAL

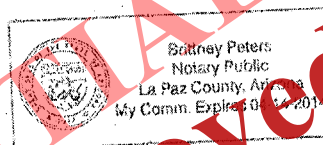
STATE OF ARIZONA)
COUNTY OF LaPaz) SS.

(For use in all states)

On this 31st day of January, 2012, before me, the undersigned Notary Public in and for said county and state, personally appeared Merrill known to me to be the person or persons whose name(s) are subscribed to the foregoing instrument, and acknowledged that the same was executed and delivered as his/her/their free and voluntary act for the purposes therein set forth. In witness whereof I hereunto set my hand and official seal as of the date hereinabove stated.

My Commission Expires: April 14, 2014

Batney Peters
NOTARY PUBLIC



CONFIDENTIAL
Returned Unapproved

Well Name	GORDON CREEK, LLC GORDON CREEK FEE NW-31-14-8 4300750359			
String	SURF	PROD		
Casing Size(in)	8.625	5.500		
Setting Depth (TVD)	2065	4435		
Previous Shoe Setting Depth (TVD)	0	2065		
Max Mud Weight (ppg)	8.7	8.7		
BOPE Proposed (psi)	2000	3000		
Casing Internal Yield (psi)	2950	7740		
Operators Max Anticipated Pressure (psi)	900	3.9		

Calculations	SURF String	8.625	"
Max BHP (psi)	.052*Setting Depth*MW=	934	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	686	YES <input type="checkbox"/> 2M Rotating Head for air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	480	YES <input type="checkbox"/> OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	480	NO <input type="checkbox"/> OK <input type="checkbox"/>
Required Casing/BOPE Test Pressure=		2065	psi
*Max Pressure Allowed @ Previous Casing Shoe=		0	psi *Assumes 1psi/ft frac gradient

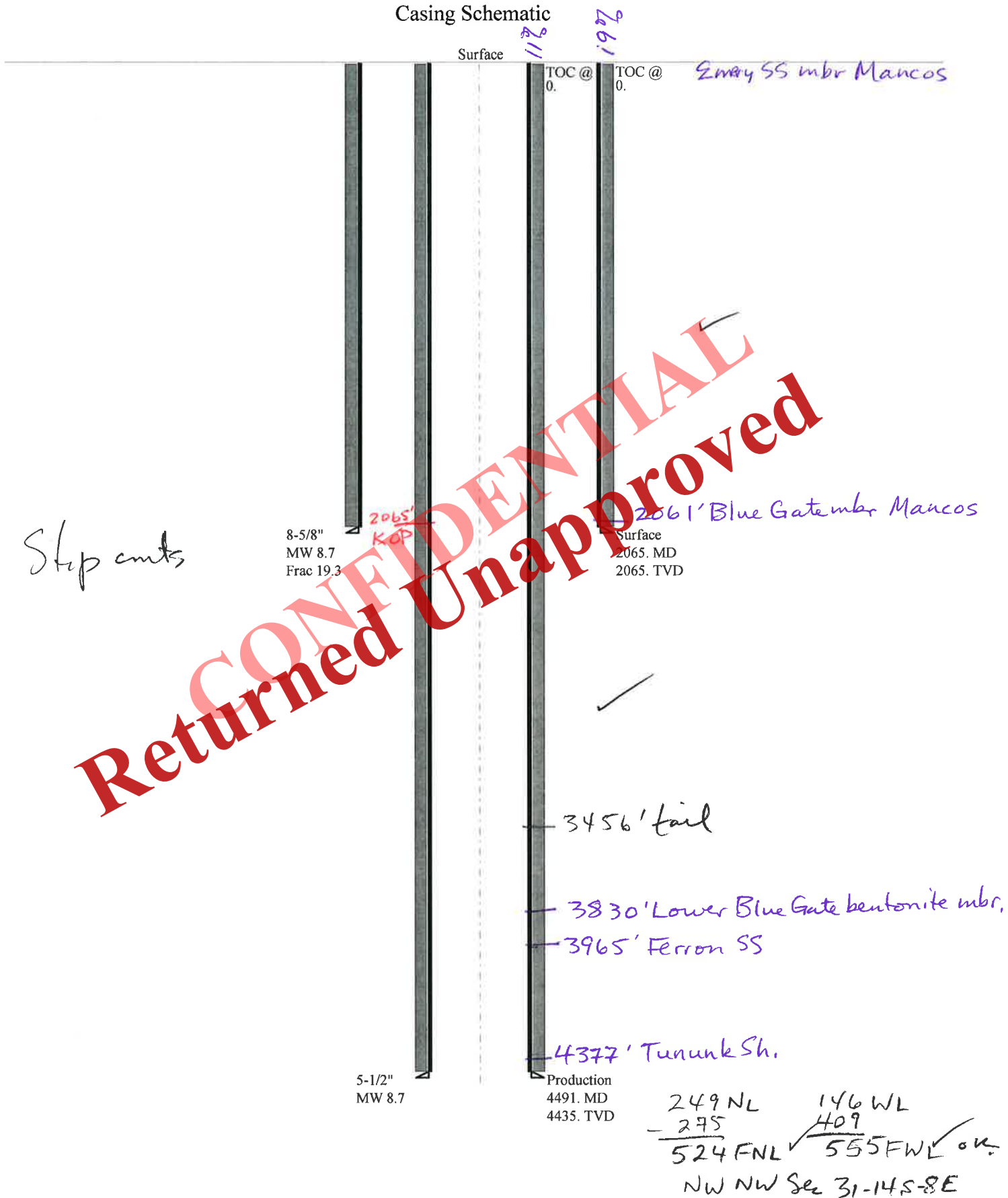
Calculations	PROD String	5.500	"
Max BHP (psi)	.052*Setting Depth*MW=	2006	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	1474	YES <input type="checkbox"/> 3M BOPE double gate with 2M rotate head
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	930	YES <input type="checkbox"/> OK
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	1485	YES <input type="checkbox"/> OK <input type="checkbox"/>
Required Casing/BOPE Test Pressure=		3000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2065	psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO <input type="checkbox"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO <input type="checkbox"/>
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO <input type="checkbox"/>
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO <input type="checkbox"/>
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO <input type="checkbox"/>
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

43007503590000 Gordon Creek State NW 31-14-8

Casing Schematic



Received: June 05, 2013

Well name: **43007503590000 Gordon Creek State NW 31-14-8**
 Operator: **CORDON CREEK, LLC**
 String type: **Surface**
 Location: **CARBON COUNTY**
 Project ID:
43-007-50359

Design parameters:

Collapse

Mud weight: 8.700 ppg
 Design is based on evacuated pipe.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
 Surface temperature: 74 °F
 Bottom hole temperature: 103 °F
 Temperature gradient: 1.40 °F/100ft
 Minimum section length: 100 ft

Cement top: Surface

Burst

Max anticipated surface pressure: 1,472 psi
 Internal gradient: 0.120 psi/ft
 Calculated BHP 1,720 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
 8 Round LTC: 1.70 (J)
 Buttress: 1.60 (J)
 Premium: 1.50 (J)
 Body yield: 1.50 (B)

Tension is based on air weight.

Neutral point: 1,795 ft

Non-directional string.

Re subsequent strings:

Next setting depth: 4,435 ft
 Next mud weight: 8.700 ppg
 Next setting BHP: 2,005 psi
 Fracture mud wt: 19.250 ppg
 Fracture depth: 2,065 ft
 Injection pressure: 2,065 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2065	8.625	24.00	J-55	ST&C	2065	2065	7.972	10631
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	933	1370	1.468	1720	2950	1.72	49.6	244	4.92 J

Prepared by: Helen Sadik-Macdonald
 Div of Oil, Gas & Mining

Phone: 801 538-5357
 FAX: 801-359-3940

Date: May 30, 2013
 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2065 ft, a mud weight of 8.7 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Engineering responsibility for use of this design will be that of the purchaser.

Received: June 05, 2013

Well name: **43007503590000 Gordon Creek State NW 31-14-8**
 Operator: **CORDON CREEK, LLC**
 String type: **Production**
 Location: **CARBON COUNTY**
 Project ID: **43-007-50359**

Design parameters:

Collapse

Mud weight: 8.700 ppg
 Design is based on evacuated pipe.

Minimum design factors:

Collapse:

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
 Surface temperature: 74 °F
 Bottom hole temperature: 136 °F
 Temperature gradient: 1.40 °F/100ft
 Minimum section length: 100 ft

Cement top: Surface

Burst

Max anticipated surface pressure: 1,029 psi
 Internal gradient: 0.220 psi/ft
 Calculated BHP 2,005 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
 8 Round LTC: 1.80 (J)
 Buttress: 1.60 (J)
 Premium: 1.50 (J)
 Body yield: 1.60 (B)

Directional Info - Build & Hold

Kick-off point 2065 ft
 Departure at shoe 493 ft
 Maximum dogleg: 2 °/100ft
 Inclination at shoe: 13.66 °

Tension is based on air weight.
 Neutral point: 3,889 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	4491	5.5	17.00	N-80	LT&C	4435	4491	4.767	25313
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	2005	6290	3.138	2005	7740	3.86	75.4	348	4.62 J

Prepared by: Helen Sadik-Macdonald
 Div of Oil, Gas & Mining

Phone: 801 538-5357
 FAX: 801-359-3940

Date: May 30, 2013
 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 4435 ft, a mud weight of 8.7 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.

Received: June 05, 2013



GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

December 30, 2014

GORDON CREEK, LLC
1179 E Main #345
Price, UT 84501

Re: Application for Permit to Drill - CARBON County, Utah

Ladies and Gentlemen:

The Application for Permit to Drill (APD) for the GORDON CREEK FEE NW-31-14-8 well, API 43007503590000 that was submitted December 20, 2012 is being returned unapproved. If you plan on drilling this well in the future, you must first submit a new application.

Should you have any questions regarding this matter, please call me at (801) 538-5312.

Sincerely,

Diana Mason
Environmental Scientist

Enclosure

cc: Bureau of Land Management, Vernal, Utah



